The Last-Time Buyer: housing and finance for an ageing society

Les Mayhew

Aldermore

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Foreword

The Baby Boomer generation is retiring and aspirations for later life will prove very different to previous generations. Those retiring at 65 can expect to live for another 23 years, compared with 16 in 1980, and the number of people over 65 is set to rise 52% between 2015 and 2040.

It is of course welcome to see people living longer, healthier lives, with more opportunities and plans for retirement. But this presents increasing challenges in terms of how people manage their finances and for the housing market.

The needs and ambitions of those in later life are becoming more diverse, ranging from household renovations, passing wealth to the next generations and supporting them onto the housing ladder, starting a business venture, contributing to future care costs or seeking more suitable housing for their lifestyle, including downsizing.

Much of this will require a boost in their finances, but age has previously acted as a barrier to lending in later life. The financial sector has perhaps been slow to react to the changing needs of the population, but this is rapidly changing. It used to be that equity release was the only financial product available, but over the past few years, the choice for over 50s has expanded.

Alongside equity release, there are now Retirement Interest Only (RIO) products with no defined term or minimum equity requirements, along with repayment and fixed-term interest-only mortgages that can be taken out up to the age of 85. This broadens the options available to those in, or about to be in, retirement.

Financial advice for older borrowers will remain crucial in driving awareness of the growing range of options. And specialist lenders will play a vital role as they invest time and care in assessing suitability of options to individual circumstances, ensuring lending is responsible with high levels of customer care.

Widening the options for older homeowners requires changing mind-sets further afield than the financial sector. The Government's recent interventions to help first-time buyers have been welcome but, to improve the housing market for the longer-term, there needs to be a refocus towards helping 'last-time buyers', as this report suggests, providing retirees with financial freedoms and creating incentives to downsize, where appropriate, to free up housing stock for younger generations.

More detailed and holistic regional plans are also required to identify the needs of each area. House building needs to become more diverse, with a focus on delivering a range of tenure that is suited to the requirements of different age groups.

This report provides many practical and achievable recommendations to help tackle financial and housing issues for the ageing population. Creating a housing market that works well for everyone – renters, first-time buyers, home movers, last-time buyers and landlords – should be the aim for all of us. This requires innovation, imagination and creativity to ensure the sector meets the continually shifting needs of the British population.

Sue Hayes
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Aldermore Bank

Preface

This is the second paper by Prof Mayhew that the CSFI has published, and it advances the arguments that he first put forward in '*The Dependency Trap*' (January 2018).

This time, the focus is on enabling people – particularly older people – to monetise the very substantial wealth that is trapped in the UK's housing stock, which is often inappropriate for their needs. One of the (many) important findings that Prof Mayhew has come up with is that, on paper at least, the UK is not short of housing; rather, it is short of the right sort of housing – with too many older people, in particular, stuck in housing that no longer suits them. Free them up to downsize (or "rightsize"), he suggests, and we would go some way to resolving a chronic housing problem – while, at the same time, providing them with a way to cope with the vicissitudes of later life, in particular the (often crippling) cost of social care.

There are many important recommendations in this paper, but (in my opinion) the most important are those focused on that section of the market that Prof Mayhew describes as "last-time buyers". They are often asset-rich but trapped in properties that no longer meet their needs – and, indeed, that block others for whom such properties would be more appropriate. Changes in stamp duty and/or capital gains tax should be on the agenda, as should policies with regard to porting mortgages, switching from one type of mortgage to another and using the wealth tied up in housing to fund long-term care. Clearly, there is a big role for the financial services industry, which has already moved into this space with equity release mortgages. In particular, there is a lot of room for new insurance-based products, possibly with premiums not falling due until the insured goes into long-term care or dies.

I am delighted that Prof Mayhew has agreed to let us publish his paper, which I really believe can change the debate in Westminster. I am also delighted that we have been able to obtain support for publication from Cass Business School (where Prof Mayhew is based) and from Aldermore, one of a new breed of 'challenger' banks. We very much appreciate their help. Finally, I would very much like to thank my colleague, Jane Fuller (latterly financial editor at the *Financial Times*), who worked closely with Prof Mayhew to ensure that the complexity of the issues he was dealing with did not make his paper a dull read. To the contrary, it is accessible, provocative – and, I hope, the kind of paper that makes politicians in Westminster sit up and take notice.

Andrew Hilton
Director, CSFI

CSFI

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Summary and main recommendations

Demographic change and household patterns

By 2040, the UK population is forecast to grow to 72.7m, up from just over 65m in 2015. The number of inhabitants aged 65+ is set to jump from 11.6m to 17.7m. Demographic analysis suggests that demand for accommodation could add the equivalent of two new towns, each with 100,000 homes, every year for 25 years.

The paradox, bearing in mind the UK's much discussed 'housing crisis', is that the current housing stock is, on paper, sufficient to meet today's needs. In 2015, there were 28.3m housing units compared with demand from 27.4m households. The gap is accounted for by second homes and vacant properties.

Also significant is the change in occupancy patterns as multi-generation households have dwindled and older ones increased. Average household size has fallen from 2.48 in 1980 to 2.36 in 2018, largely due to the ageing population. If household size today were the same as in 1980, there would be 1.3m more dwellings available.

While a growing population inevitably means that more homes must be built, just as pressing is the need to align housing supply with actual household needs.

In this context, under-occupancy, a feature of an ageing population, is as much of a problem as the shortfall in homes being built. If people lived in homes more suited to their needs, 50,000 fewer homes would need to be built each year.

This research combines demographic data, including ageing, with that on household composition and housing supply to create a tool for forecasting housing needs, called the Dwelling Index. One of the key findings is that the number of people set to live alone will increase by 30% by 2040.

Housing supply

Although the number of homes being built has picked up, it still falls short of what is required to fill a gap created over many years. We agree with the government White Paper, published in 2017, that failures in the planning system are a contributory factor and must be tackled with urgency.

But the issue is not just one of quantity. The ageing population has exposed a shortage of suitable properties for people aged 55+ wishing to downsize from a family home. Consequently, there is increasing misalignment between dwelling size and dwelling need.

Limited options for people wishing to downsize exacerbate this. As well as offering a wider choice of apartments, future construction should take account of the growing demand for homes in purpose-built retirement communities, with access to care services.

Recommendation: Greater encouragement to downsize and to orientate new construction towards older, or 'last-time', buyers should be part of the policy mix to correct the misalignment between the housing stock and housing needs.

Recommendation: Housing needs are predictable, whereas house building is cyclical. The building industry should be encouraged to focus on satisfying housing needs via consistent policy guidelines, the easing of planning restrictions, infrastructure investment and better co-operation with local authorities.

Private house building is well below previous levels and council properties sold under the 'right to buy' have not been replaced. Local authorities and housing associations need greater flexibility to build affordable homes. Financial help for first-time buyers should be seen in the same light as housing benefit support for private and social renters. These subsidies would be much lower if there were more affordable homes and social rented accommodation.

Recommendation: The government's announcement, in October 2018, that borrowing restrictions will be relaxed to enable local councils to build additional homes is a welcome change of policy, which could go further. The outcome needs to be closely monitored to ensure it drives up the availability of affordable housing for rent.

House prices

Historically, the best predictor of house prices was average earnings, but the link has been ruptured. Since 2000, average house prices have trebled whereas gross earnings have only risen by about 60%. This has led to high levels of mortgage debt – for first-time buyers, in particular.

Changes on this scale are due to a combination of burgeoning demand, insufficient and erratic supply, a shortage of social housing and a growth in second home ownership. On the demand side, for example, we find that, without immigration, prices would have been around 6% lower on average since 1980 and 12% lower if just considering the period since 2000.

The prospect for future price rises is highly uncertain. Studies have shown that falling house prices are positively correlated with the dependency ratio – the ratio of people of working age to those aged 65+. The UK is experiencing a steep fall in this ratio from 3.8 in 2007 to 2.4 by 2030.

We find that prices are strongly correlated with changes to the Dwelling Index in the medium to long-term. Future trends will increasingly be dictated by the impact of an ageing population. Pressure on prices will turn downwards in the 2020s as baby boomers die out, freeing up property.

Housing policy

A clear conclusion of this research is that downsizing must be encouraged. Yet many of the policies have the opposite effect (e.g. a lack of suitable dwellings to downsize into, high transaction costs due to stamp duty and other expenses). The growth in second homes and vacant properties has also exacerbated the shortage. Better targeted financial incentives are needed, including switching attention to last-time buyers.

There is a lack of transparency of and accountability for different government initiatives, mostly aimed at helping first-time buyers. For example, it is unclear where some schemes begin and end, and what the time limits are for funding programmes.

Recommendation: The government should focus on last-time buyers as part of its housing strategy. Policies to encourage downsizing should be aligned and the tax system adjusted to achieve this effect. Supply side constraints, such as the lack of suitable homes for downsizers, should be addressed.

Recommendation: There should be a joined-up approach to these initiatives under a single housing programme, monitored by a trustworthy body such as the Office for

National Statistics or the National Audit Office. This should report on how objectives are being met and how the costs are split between public and private sector.

Financial services

Many challenges are created by an ageing population in a country with tight housing supply and much wealth tied up in bricks and mortar. Aligning the housing stock with shrinking household size, by encouraging downsizing and better targeted building, is an important part of the solution.

Inflated house prices have left many home owners with windfalls from which they struggle to benefit in their lifetimes, and which might be consumed by inheritance tax. In principle, housing wealth can be used in many ways, including to release cash by downsizing, make gifts to dependents or pay for care.

But there are limitations and timing issues. Personal objectives are key but using housing wealth to achieve them can be complicated, calling for affordable advice. Innovation coupled with prudent lending is vital and there is scope to extend and develop products based on flexible lending arrangements and insurance. They may also aid inheritance planning.

Developments in the market include equity release, which is growing very fast. Lending topped £3bn in 2017 and reached an estimated £4bn in 2018. Unlike traditional mortgages, money can be drawn down to suit needs. Loan repayment is after death or transfer into a care home, so there is no impact on current consumption.

Other developments in flexible mortgages also help to meet people's needs from their 50s onwards when, typically, earnings start to decline. These include switching from repayment to interest-only mortgages to reduce outgoings, or taking out a new mortgage to release funds for gifting or adapting a home to elderly living.

Housing wealth can also be used to insure against the cost of long-term care without affecting current consumption if the premium is paid after death. Knowing that care needs are covered provides peace of mind for financial planning in old age.

Recommendation: To make downsizing easier, the ability to port mortgages, switch from one type of mortgage to another and repay early without onerous penalties are all part of the mix. So is the need to plan for income in retirement. Under any of these proposals, there will be a greater need for affordable advice and intermediary services.

Recommendation: More people should pay for their care using insurance-based approaches, or by setting aside some of their housing wealth.

National and local plans

While planning delays obviously need to be tackled, a practical problem is that local plans are piecemeal and of variable quality. They also make insufficient use of data to inform the process.

Population decline, mainly in northern cities, and growth elsewhere has fuelled imbalances between housing demand and supply, as well as social inequality. Within cities, changing shopping habits have created opportunities for redevelopment.

Recommendation: Housing requirements should be determined at a national and local level on a holistic basis, drawing on under-used data sources – including demographic changes – along the lines of the Dwelling Index developed for this report.

Recommendation: Improved plans are needed for regions that have suffered population decline to modernise infrastructure and attract investment. The change of use of urban sites, such as empty high street stores, should be encouraged.

Introduction

Turn to any newspaper and you will see that the UK is in the midst of a housing crisis. Too few houses are being built, there are not enough affordable homes, homelessness is rising, council waiting lists number over 1.1m, and children are being forced into poverty through high rents and cuts in benefits. One could be forgiven for thinking the end of the world is nigh.

These shrill headlines are symptomatic of a deeper issue – namely the effects of population growth and ageing. This report explores a new phenomenon: in the UK as a whole, there is ample housing, but a huge mismatch exists between housing needs, on the one hand, and the supply of suitable accommodation, on the other. The aim of this research is to understand the dimensions of the mismatch and to suggest ways to realign supply and demand.

Demographic trends

The report takes the long view by focusing on demographic trends, particularly ageing, and how these shape household formation, occupancy and dwelling size. It addresses questions such as how demand is changing for one, two or three, or more, person households, how many bedrooms they need and so on. A key finding is that there is a paucity of choice for people living in multi-bedroomed houses who would benefit from downsizing.

In 2015, the UK population was 65.1m; this year it is expected to reach 66.9m. By 2040, it is forecast to grow to 72.7m, of whom 17.7m, or about one in four, will be aged 65+. This is 6.1m more than in 2015. One driver is the post-war baby boom, another is that people are living much longer. In 1980, life expectancy at age 65 was 15 years, by 2040 it is expected to be 24 years. This means that property inheritance, an important way to transfer ownership, is postponed or even skips generations.

Where a partner has died, the survivor often lives alone with few financial options but to stay put. Yet they face increasing risks to their wellbeing in homes that may be ill-adapted to their deteriorating health. Housing solutions for older living are much talked about, but without much visible action; indeed, firms working in this sector say supply is falling behind demand.

Shortage of affordable homes to buy

A consequence of older people staying put is that it aggravates the shortage of affordable homes for younger buyers. The other element of constricted supply is a dramatic fall in the number of homes being built, from 250,000 a year in 1980 to a nadir of 133,000 in 2013. Is this the crux of the problem, or is it a case of the wrong kind of home being built?

Home ownership has fallen from a peak of 69% in 2000 to 61% today. Local authority renting, which once accounted for 30% of occupancy, has also been in steep decline with the sell-off of council dwellings. This has only been partially replaced by housing association tenancies, which account for 10% of the total. The mix of occupancy types has changed, with private renting growing from around 10% of all forms of occupancy in 2000 to nearly 20% today.

Private renting serves a purpose and is favoured by young adults, but it brings other problems. For example, The English Housing Survey[1] finds that private rented

1. The English Housing Survey: 2008/9 to 2016/17. https://www.gov.uk/government/collections/english-housing-survey

properties are increasingly susceptible to over-crowding and more likely to suffer dilapidation, while owner-occupied properties are becoming under-occupied. Work commissioned by local authorities shows that areas of private renting suffer more antisocial behaviour, especially in deprived areas.

One rarely discussed reason for the growth of private renting and the steep rise in house prices is immigration. Net immigration to the UK averaged about 30,000 a year between 1980 and 1999; between 2000 and 2017 it was 236,000 – eight times higher, peaking at 332,000 in 2015. Although this has fallen in the past couple of years, cumulatively this has added about 4.8m people since 1980. This is bound to have had a significant impact on the housing market.

Political parties of all persuasions agree that more houses must be built, which means more land being made available – enough to build two moderately sized new towns each year[2]. The Labour Party's prescription is to build an extra 1m homes over a 10-year period and the Conservatives plan to push the annual total up to 300,000[3]. What accompanying measures and policies would make a difference to the supply/demand imbalance?

Supply, demand and house prices

The UK's housing crisis requires a more sophisticated approach than simply building more. This research has developed a Dwelling Index to calibrate and forecast housing needs, taking in data on demography, housing supply and household composition. A surprising finding is that the UK's actual housing stock outstrips demand. In 2015, for instance, there were 28.3m residential units – houses and apartments – compared with demand of 27.4m.

The most plausible explanation is that a number of homes stand wholly vacant or are second homes. There are definitional problems between these two categories, but census estimates suggest that there were 1.1m unoccupied dwellings in 2011. The growth in second homes is linked to the baby boomer generation, which has become richer on the back of property wealth and, since the financial crisis, has put more faith in bricks and mortar as a saving vehicle, including buy-to-let.

Another trend has been the fragmentation of households, with fewer homes containing multi-generations at the same time as the population has been ageing. The number of occupants per dwelling based on the Dwelling Index has fallen from 2.48 in 1980 to 2.36 in 2018. If household sizes today were the same as in 1980, there would be at least 1.3m more dwellings available. In addition, if people downsized into homes more suited to their space, or bedroom, requirements, 50,000 fewer homes would need to be built each year.

The net result is that although there are enough properties to go around, there are not enough on the market at prices first-time buyers, and some young families, can afford. Since 1980, average house prices have risen more than twelve-fold, whereas average earnings have gone up only six-fold. From 1980 to 2000, earnings and house prices rose more or less in lockstep, but the relationship has since dissipated.

There are other long-term indicators of tightening supply. For example, the gap between the rate of growth in the housing stock relative to the rate of growth in demand has been falling since 1985. This has corresponded with a rise in prices, with particularly large hikes in 1988 and 2003.

The reaction of banks and their regulators to the credit excesses that fuelled the financial crisis can be seen in the housing market. The number of housing transactions peaked in 2007 at 1.6m and then halved between 2008 and 2011, since when they have steadied at around 1.2m. Another measure of the slowdown is that average duration of occupancy per dwelling has increased from 16 years in 2006 to 23 years today.

2. On 7 February 2017 the government published a Housing White Paper, entitled 'Fixing our broken housing market'.

3. Announced in the 2017 budget.

With interest rates falling to record lows, inflating the amounts that can be borrowed as a multiple of earnings, prices have moved beyond the reach of most first-time buyers. Putting together a deposit in a reasonable period has become almost impossible without, for example, parental help.

The long-term effects include exacerbating wealth inequalities, while high house prices and rents squeeze consumption and hence damage GDP. The problem is that interest rate changes are designed to cover a range of financial policy goals and not just the housing market.

Will prices continue to climb? One of the key findings of this report is that the ageing of the population is likely to lead to a fall in house prices in the 2020s. This is due to a combination of two factors. One is a levelling off in the working-age population, which traditionally is a key driver of housing demand and therefore prices. The second is that baby boomers will gradually die out, relinquishing their homes to the next generations. This should prompt new ways of thinking about housing needs, both during the transition and afterwards.

The Dwelling Index

In published research there is little attempt to tie these factors together into a coherent analysis. The tendency is to cover only a segment of the market or a short-term change in prices or market conditions. One reason for this fragmentation is the diversity of information and data sources – from mortgage lenders, house builders, UK Finance or local authority housing departments.

This is mirrored across central government, with sources ranging from the Valuation Agency and the Land Registry to whole departments such as the Ministry of Housing, Communities and Local Government (MHCLG), the Office for National Statistics (ONS) and the Department for Work and Pensions (DWP). The combined effect gives rise to confusion and obfuscation for anyone trying to study housing.

In this research, we introduce the Dwelling Index as a core measure of housing needs. It is based on an imputed number of dwellings lived in by persons of a given age. Over a typical life span, the living arrangements of individuals change, usually triggered by life events such as the birth of a child or children leaving home. Such transitions usually, but not always, involve a dwelling change but the triggers can also be used to practical effect.

This research builds on well-established patterns to predict the future structure of households, and hence dwelling needs. The Dwelling Index combines data on housing with demographic forecasts to predict housing needs, which are then compared with the dwelling stock to identify gaps and mismatches.

The index can be used both retrospectively and prospectively. The fact that, historically, it is strongly correlated with house prices provides a basis for forecasting. This is not to say that it is sensitive to month-on-month changes in prices, but as a medium to long-term tool it appears to be very useful.

The failure to take a holistic approach, combining demographic analysis with information on the housing stock and prices, helps to explain today's housing crisis. The challenge is to switch policy from a reaction to crises to a rational anticipation of needs. This report proposes possible solutions with implications for house builders, government policy and financial services.

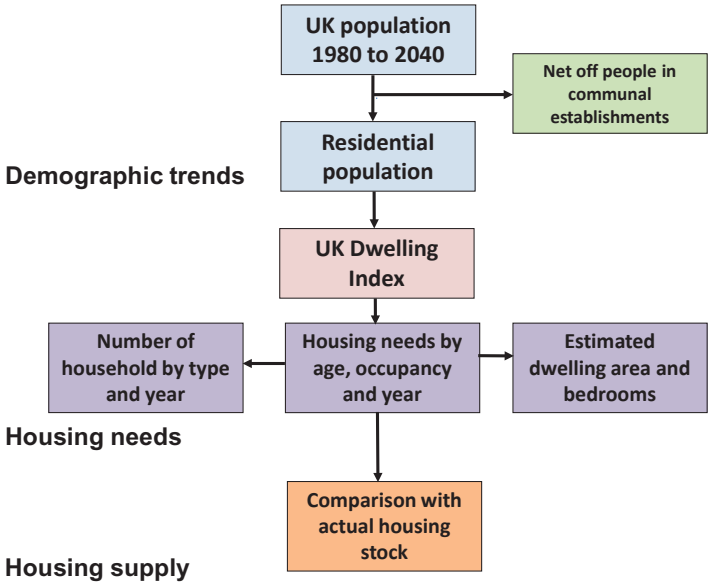
Research aims and structure

The problems identified are deep-rooted and ongoing. This calls for consistent application of policies, with a firm evidence base, that aim to produce a better match between supply and demand. The research had the following aims:

- to undertake an analysis of housing needs, taking into account the effects of population growth and ageing;
- to consider the effects of population ageing on household configuration, and the extent to which the housing stock is aligned with needs;

- to evaluate the links between house prices, population ageing and dwelling demand and show how future price movements might be affected by an ageing population;
- to consider various policy levers, including taxation, to make more efficient use of the existing housing stock, including encouraging older people to downsize; and
- to explore ways in which the financial services industry can help people convert housing wealth into retirement income, or security for deferred insurance premiums to cover care costs in later life.

Figure 1: Outline of methodology used in Chapters 1 and 2



The structure of the analysis in Chapters 1 and 2 is set out in Figure 1. These are mainly concerned with quantifying future housing needs resulting from demographic change. Chapter 3 contains a detailed analysis of the actual housing stock in relation to housing needs, based on the Dwelling Index, accompanied by analysis of its effects on house prices.

Chapter 4 focuses on the implications of the previous analysis for housing policy and practice, including improvements to forecasting methodology and the scope for targeted tax incentives. Chapter 5 is concerned with the role of and implications for financial services. The final chapter summarises the main conclusions.

Chapter 1: Demographic change and household patterns

We need a slick and transparent statistical method of converting demographic changes into dwelling requirements – not the cumbersome and inflexible methods used currently[4]. The impact of demographic change on past and future housing needs can then be compared with the existing housing stock and trends in construction.

A dwelling is defined as a house, flat or other place of residence, and a household as the people who live under the same roof and behind a single door, as a family or some other unit. A communal establishment is defined as providing managed residential accommodation. This includes hospitals, care homes, prisons, boarding schools and student halls of residence.

Based on ONS data, the population in communal establishments totalled 1.1m and accounted for 1.8% of the population in 2011, the year of the last census. This research excludes the communal population from calculations estimating future housing needs. The population living in households, 98.2% of the UK total, forms the basis for all later analysis.

Since households vary in composition, size and age of occupant, future patterns are bound to be strongly influenced by demographic trends – for example, the tendency for older households to be smaller than households with young families. These trends and other changes in society do not occur suddenly but over decades.

This research uses the Dwelling Index to forecast future household requirements, based on the age of people living in households of different sizes. A new classification has been devised for different household types, which is set out in Chapter 2 and Appendix A. This classification enables us to predict the composition of future households and, therefore, the number and type of dwellings required.

Box 1 shows how the index works. It is defined as the average size of household lived in by people by single year of age. It shows that the average size declines with age – although there are bumps on the way. There are peaks at age 8-10 (about four people) and age 40 (just under 2.6), the latter preceded by a shallow trough at age 30. A steady decline sets in from the early 40s, before levelling out at slightly over 1.2 people per household in very old age.

The data on which the index is based was specially commissioned for this research from the ONS. It produced tables showing, for single year of age, the residential population living in 1, 2, 3…10 and 11+ households. Similar tables have been provided for households living in owner occupation, and private and socially rented accommodation. Although based on the slightly dated 2011 decennial census, this is the only information available at this level of granularity.

4. Responsibility for producing household projections was transferred from the Ministry of Housing, Communities and Local Government to the Office for National Statistics (ONS) in 2017. In June 2018, ONS said that there was a need to improve the consistency between population and household forecasts and changes in methodology would be required – this work is ongoing.

Box 1: The Dwelling Index

The Dwelling Index is the imputed number of dwellings lived in by persons of a given age or age range in which we assume one dwelling per household. The number of dwellings occupied by people of age *i* living in household size *n* is the sum over all ages divided by household size *n*, in which *i* equals 0, 1, 2, 3…100+ and n 1, 2, 3…etc.

$$D_i = \sum_n \frac{P_{in}}{n}$$

The average size of household lived in by a person aged *i* is, therefore, $\overline{D}_i = P_i / D_i$. The total number of imputed dwellings is then the sum over all age groups and is given by:

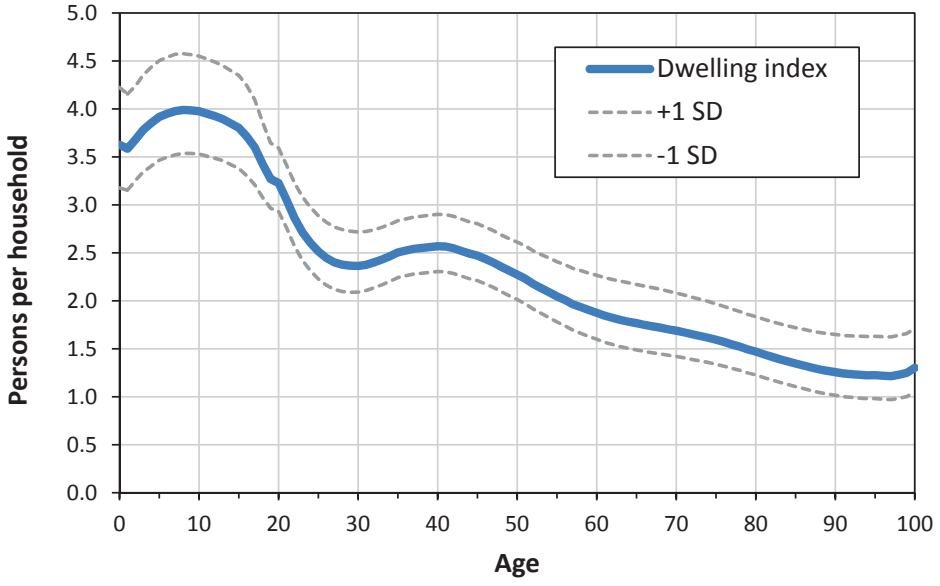
$$D = \sum_i \sum_n \frac{P_n}{n}$$

Data on the number of people aged *i* living in a household of size n was commissioned from the ONS and based on data from the 2011 census for England and Wales. By allocating one dwelling to each household, this produces an overall average occupancy of 2.36 persons per dwelling.

The chart shows the average size of household occupied by persons by single year of age. A newborn, on average, lives in a household with 3.5 persons; this rises to 4 persons by age 8 before falling to 2.4 persons around age 30. It then rises again to 2.6 persons at age 40 before falling to 1.2 at age 97 after which it rises slightly reaching 1.3 at 100+.

Dotted lines show the range of variation based on +/- one standard deviation (SD). The chart shows that the index is generally accurate to within +/-0.5 persons over the age range 0 to 100 years.

Average household size by persons of a given age, from birth to 100 years



Because owner-occupied dwellings tend to be bigger, they can accommodate more people and are less likely to be overcrowded. Latest data show that only around 1.8% of owner-occupied dwellings are classed as overcrowded, compared with 6.6% of socially rented and 5.2% of privately rented dwellings, meaning that there are systemic as well as age-related differences.

These differences are part of a long-term trend that has seen a reduction in overcrowding in owner-occupied properties and a rise in both social and privately rented properties. The trend probably reflects demographic adjustments in the owner-occupied sector resulting from population ageing, and supply constraints in other segments.

For analytical purposes, some assumptions are made about living arrangements. As the population ages, for example, we would expect more people to live alone or in couple households, the so-called 'empty nesters'. Holding certain assumptions constant is unavoidable since the census is only held once every 10 years (some interim adjustments are possible through the use of annual surveys and updates).

In the next section, we use the Dwelling Index to investigate changes in household size to show how living arrangements have been affected by demographic changes. The basis for the estimates is obtained by applying the index in Box 1 to ONS UK 2016-based principal population projections.

Estimates of dwelling preferences by household size and age

Since 2000, application of the index shows that average household size has fallen from 2.42 in 2000 to 2.38 in 2015 and is set to fall to 2.27 by 2040, implying an increase in dwelling needs irrespective of population growth. Together with population increases, the total number of households is set to increase by 32% from 24.5m units in 2000 to 32.3m in 2040.

This compares with an 11.6% growth in the residential population from 63.9m to 71.4m. Most of the growth will take place in the 65+ population, which is forecast to rise by 52% to 17.4m as compared with growth rates of only 4.1% in the 0-19 age group and 2.3% in the 19-64 age group.

What do these trends imply in terms of the number of people living in households of different sizes? The research applied the index to the actual and projected UK population figures to determine the residential population living in different household sizes, ranging from only 1 person to those with 5 or more.

Table 3 shows the population broken down by household size in five reference years from 2000 to 2040. Those living in 1-person households are projected to increase by around 30% from 8.5m to 11.0m between 2015 and 2040. In contrast, the number living in larger households with 3 or more persons will grow at around 5%.

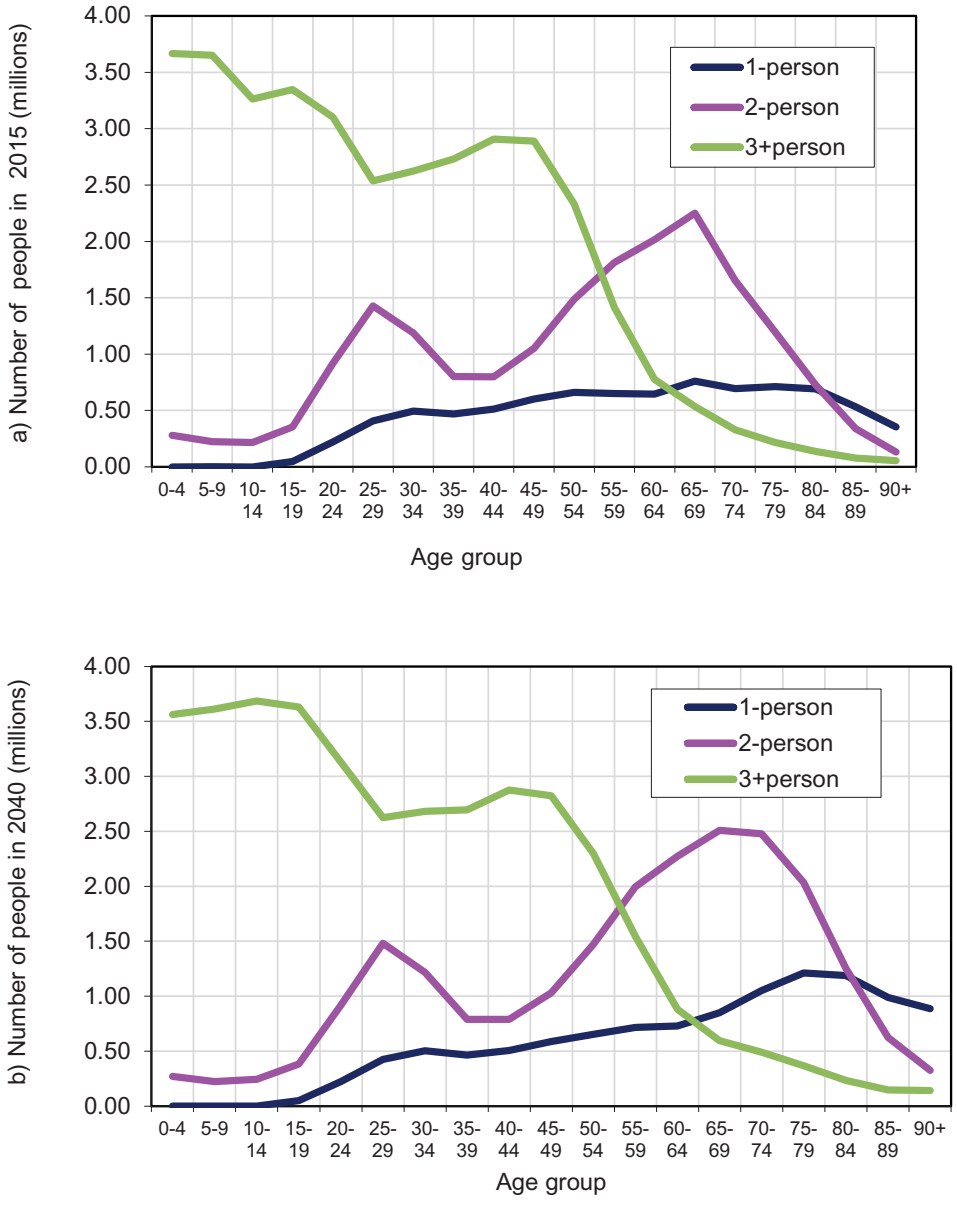
Table 3: UK residential population (millions), by household size, at five reference points in time

Household size	2000	2015	2020	2030	2040	% change 2015 -2040*
1	7.28	8.46	8.97	10.02	11.04	30.4
2	16.41	18.87	19.84	21.25	22.31	18.2
3	11.52	12.57	12.82	13.01	13.26	5.4
4	13.04	13.79	14.00	14.21	14.18	2.8
5+	9.71	10.22	10.42	10.61	10.59	3.6
Total (millions)	**57.95**	**63.92**	**66.04**	**69.10**	**71.37**	**11.6**

**Because of rounding, not all the percentage changes correspond exactly to the numbers in the table*

Figures 2 (a) and (b) show the consequent change in the residential population living in 1, 2 and 3+ person households, respectively, by five-year age band using 2015 and 2040 as the reference years. In all cases, we see that the number of people living in 3+ households will decline with age, whereas the number living in 1- and 2-person households increases initially before declining at the oldest ages as people die out.

Figure 2(a and b) Population living in 1, 2 and 3+ households in 2015 and 2040



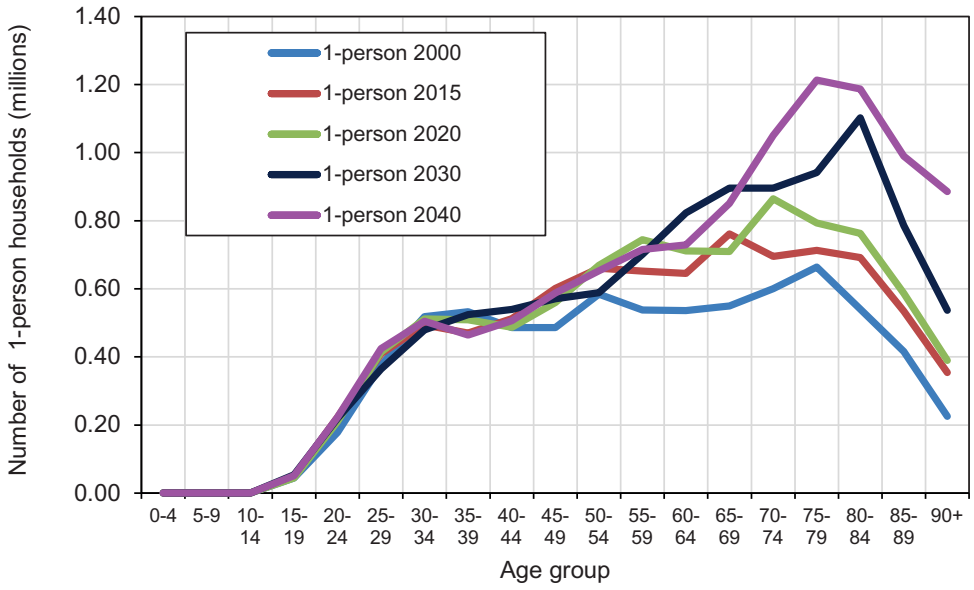
In 2015 (Figure 2a), for 2-person households an initial peak occurs in the 25-29 age brackets as people pair off into couples, and then declines as they become 3+ households by starting families. As children gradually leave the family home, the number of people in 2-person households then rises again, peaking at age 65-69.

The number in 3+ person households is highest at the lowest ages and remains fairly high until children start to leave home when parents are in their late 40s. In contrast, the number in 1-person households is non-existent until the late teens, after which it rises gradually through the life course, peaking at around age 80 and then falling.

Now compare this with figure 2(b). By 2040 the residential population will have grown from 63.9 to 71.4m. The shape of both charts is similar up to a point. However, the main difference is the significant increases in the number of people living in 1- and 2-person households at older ages.

Figure 3 shows that, in each of the five reference years from 2000 to 2040, the number of people in single-person households is actually quite similar below age 50, but above that age there is huge divergence. Particularly noticeable is the growth after 2020, with a peak of 1.2m in the vulnerable age bracket 84 to 89 in 2040.

Figure 3: Population living in 1-person households in 2015, 2020, 2030 and 2040 by 5-year age group



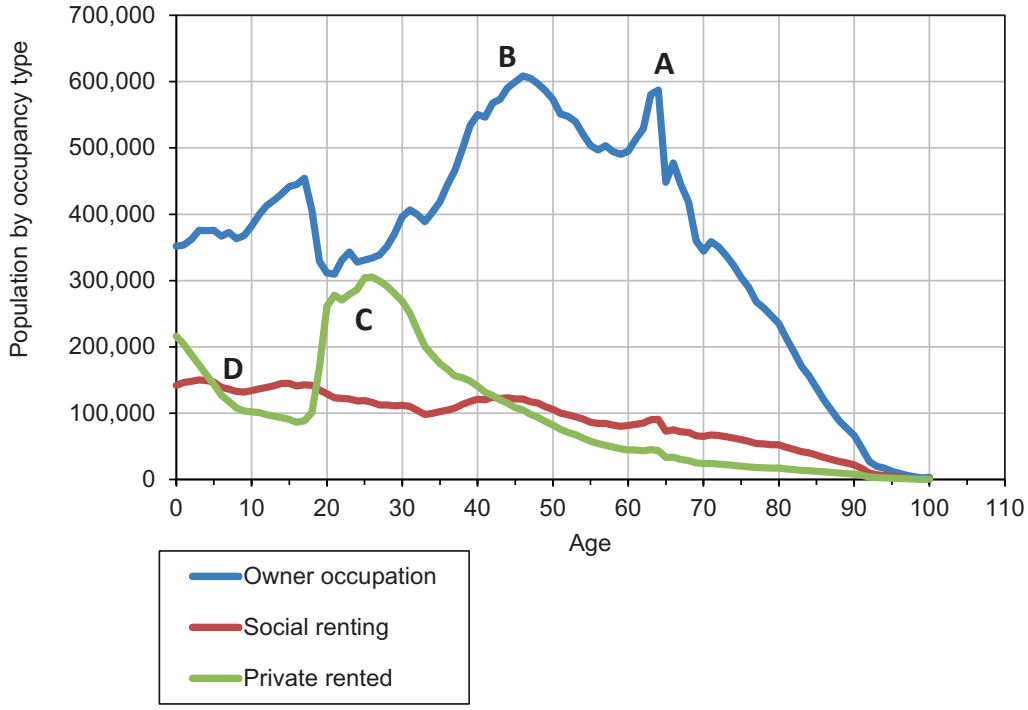
The data can be broken down by occupancy type, which also reveals distinctive patterns over the life cycle. However, since occupancy type is sensitive to house prices and policy changes, it would be unwise to try to predict these patterns too far ahead.

Box 2 shows variations by age and occupancy type, using the 2011 census. Owner occupation is easily the most popular form; the number of social renters is steadier but declines with age. Social renting consists of both local authority and housing association tenures. Of the two, housing association renting has increased, but local authority renting has declined more quickly.

Private renting, by contrast, is traditionally a temporary phenomenon taking off around the age of university enrolment and peaking at age 25 before declining. However, the evidence is that this is changing as private renting becomes a more permanent fixture beyond age 30.

Although this level of granularity is unavailable after 2011, the trend is towards even more private renting. The data also show that private renting slightly exceeded social renting for the first time in 2013, and that by 2016 social renting comprised 17.2% of occupancy types and private renting 19.3%. Owner occupation, by contrast, falls from 66% (based on the 2011 census) to 61.7% in 2016.

Box 2: Changes in occupancy type by single year of age



The chart shows the number of people living in each of three occupancy types by single year of age, based on the 2011 census. Of the 55m residential population in England and Wales, 66% lived in owner occupation, 18% in the private rented sector and 16% in social rented accommodation.

- The peak at age 65 (point A) is a legacy of the first wave of post-war baby boomers, while 45 (B) is the peak age for owner occupation.
- Private renting takes off in the late teens as children go to university and peaks at age 25 (point C) before falling away gradually, slipping below social renting from age 43.
- Social renting is highest at younger ages (point D). Initially it is slightly below private renting, before declining with age.

Chapter 2: Housing needs versus housing stock

Previous analysis has focused on the interaction between demographics and household size. It enabled us to predict a surge in the number of 1-person households mainly as a consequence of population ageing. However, dwelling requirements differ depending on household type. For example, space requirements for 1- or 2-adult family homes with children will be different from those of older couple households.

While the existing housing stock serves the majority of housing needs, the analysis suggests that the scale of the mismatch is set to get worse. This means that fitting households more closely to dwelling needs will become an increasing policy challenge. In this chapter, we unpick these issues using novel methods to help inform the next generation of house building and home adaptations.

To give an obvious example, there is no point in building executive homes if the need is for 2-bedroom apartments accommodating older couples or 1-bedroom apartments for those living alone. By matching the housing stock to need, we increase choice and make it easier for households to upsize or downsize as they wish. The question is how to do this in the most appropriate way. Our starting point is an enumeration of housing needs and living space requirements based on housing type.

Using government standards for living area and bedrooms as a benchmark, the Dwelling Index is applied to determine future housing needs. The results are compared with the existing housing stock to determine the degree of alignment. Extending the previous analysis to household building trajectories, the research can quantify the increasing mismatch between the present housing configuration and future dwelling needs, based on household type and size.

The mechanism is as follows. As average household size declines with the age of owner, without house moves the result will be a ratchet effect as dwellings become under-occupied. This will encroach on the housing needs and ambitions of younger generations, who will be stuck in smaller family dwellings and private rented accommodation. In social tenancies there is a much closer match between dwelling size and the number of occupants because allocation is on the basis of need.

Classifying households by type

First, households need to be classified in a manageable way. Mayhew and Harper (2015) set out household types based on the number of people per household and their ages, which has been adapted for this research[5]. It is a flexible classification with eight principal types, A to H. It includes couple households with or without children, single adult households with

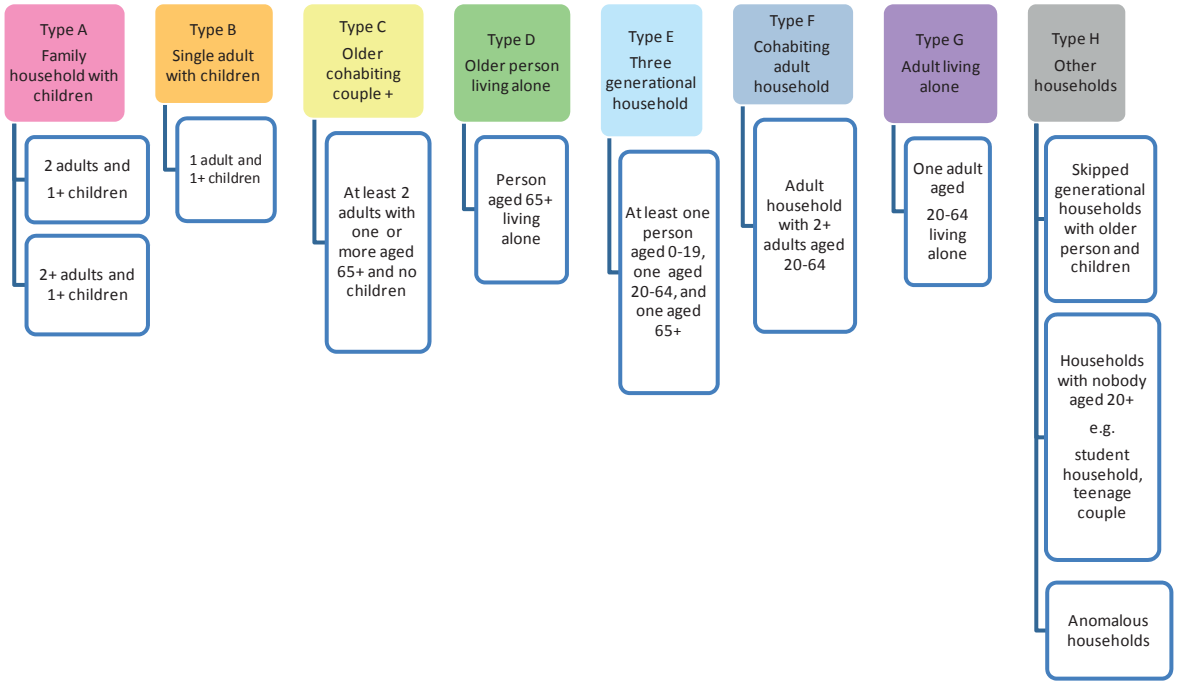
5. G. Harper and L. Mayhew. Using Administrative Data to Count and Classify Households with Local Applications. August 2015 Applied Spatial Analysis and Policy 9(4),DOI: 10.1007/s12061-015-9162-2

or without children, older couple or single person households, or three-generation households with one or more person from each age group. There is a final residual category that includes, for example, split generations of young children living with a grandparent and households with mainly students.

Examples based on the ages and number of people in each household and how they are classified are shown in Table 4. In the analysis we include households with up to 10 or more people. In fact, around 92% of all households in 2015 contained four or fewer people but it is important to show needs across the spectrum.

Table 4: Specific examples of households defined by size and age group (Key: o indicates a person)

Type	age group 1	age group 2	age group 3	size	Description
A	OO--	OO	----	4	Couple household with two children
B	-O--	O---	----	2	Single adult household with one child
C	----	O---	O---	2	Older couple household with one person aged 65+
D	----	----	O---	1	Older person living alone
E	--O-	OO--	O---	4	3-generational with one child, couple and an older person
F	----	OOO-	----	3	Cohabiting adult household
G	----	O---	----	1	Adult living alone
H	OO--		OO--	4	Split generation household
H'	OOOO	----	----	4	Young household (e.g. students, teenage parent)



Potentially hundreds of different combinations of people and ages may constitute a household, but certain types are far more common. In practice, we worked with 286 mutually exclusive types with occupancy levels of up to 10 people, and with one residual category for 11+ occupants (see Appendix A).

We commissioned data from the ONS showing the actual number of people living in households of different sizes and three age brackets: 0-19, 20-64 and 65+.

Estimates of housing needs by household type: 2000 to 2040

In the previous analysis we estimated the number of people living in households of different sizes as far ahead as 2040. While we know how many of such households there are, we do not know what type they are. For example, a household with three occupants could be a couple with one child, a single parent with two children, three cohabitating adults sharing a flat, or a household with at least one person aged 65+. We used ONS data to split occupancy levels into one of the eight household types.

There are two main assumptions. The first is that the Dwelling Index is a reasonable representation of average living arrangements based on household occupancy data. Put simply, children will continue to live with their parents, adults will tend to live in family households, or cohabit with other adults or live alone, while older people will generally live in couples or alone. As the population ages, we would expect the number in each type to adjust. For example, there will be more couple- and single-person households comprising older people.

The second assumption is that the probability of living in one of the mutually exclusive household arrangements will stay broadly the same. This means that we do not anticipate a reversion to three-generation households or a big shift to communal living. The latter is, however, a possible outcome if the number of old people living alone were to be regarded as a systemic problem and the policy response was to build more communal facilities, in which case the model would need to be adapted.

Estimates for the number of households by type for each reference year are given in Table 5. This shows a 17% overall rise from 2015 to 2040, from 27.6m dwelling units to 32.3m., as compared with a 12.5% rise from 2000 to 2015. Note the great variation in terms of future living arrangements based on changes in household mix.

While type A family households will remain the most numerous, their number will tend to level out at around 6.5m. Type B single-adult households, also with children, are set to increase in number but not by as much as other types. Together, households with children will account for a decreasing share of all households from 30% in 2005 to 27% in 2040.

Most dramatic is the predicted increase in the number of older people living alone (type D), which is expected to rise by 30.4% from 2015 to 2040 to 4.5m. The number of older households with two or more people (type C) is forecast to increase by 16.2% to 4.7m. Also noteworthy is predicted growth of 30.4% in the working age population living alone (type G) to 6.4m.

Due to population growth from 2015 to 2040, none of the types will actually experience a numerical decrease. In other words, the number of households will increase faster, at 17.0%, than the population, which is forecast to expand by 11.6%. The key implication is that households will continue to decline in size and average occupancy per dwelling will continue to fall.

Table 5: Estimates of housing needs by household type 2000 to 2040 by number of dwelling units (millions)

Category	2000	2015	2020	2030	2040	% change 2000 to 2015*	% change 2015 to 2040*
A	5.88	6.28	6.39	6.49	6.52	6.7	3.8
B	1.75	1.96	2.02	2.12	2.18	11.5	11.2
C	3.58	4.09	4.28	4.54	4.75	14.0	16.2
D	2.99	3.48	3.69	4.12	4.54	16.3	30.4
E	0.18	0.19	0.19	0.20	0.20	6.3	5.3
F	5.77	6.53	6.81	7.20	7.49	13.1	14.7
G	4.24	4.94	5.23	5.85	6.44	16.3	30.4
H	0.12	0.13	0.02	0.15	0.16	8.3	20.4
Total	**24.52**	**27.58**	**28.62**	**30.66**	**32.27**	**12.5**	**17.0**

**Because of rounding, not all the percentage changes correspond exactly to the numbers in the table.*

Comparison of household composition and dwelling size

By associating each household type with an average number of bedrooms, and occupancy levels with government space standards, it is possible to estimate housing requirements by property size. However, there is some arbitrariness about how dwelling size should be measured. In the UK, house size is conventionally based on the number of bedrooms, whereas in other countries it is expressed in square metres. Findings in this research are based on technical standards published by the Department for Communities and Local Government (now the Ministry of Housing, Communities and Local Government). The standards vary slightly according to the number of storeys in a property to allow for staircases and storage. This table compares bedroom and space requirements per dwelling, in which the midpoint in square metres is used as our benchmark (see final column of Table 6).

Table 6: Living area based on bedroom count, adapted from government dwelling space standards in square metres (upper, lower and midpoint) for households with 1, 2 or 3 bedrooms

Average bedrooms per household	Lower (sq metres)	Upper (sq metres)	Mid-point (sq metres)
1	39	58	48.5
2	61	79	70
3	74	108	91

If space requirements are measured in bedrooms, there is a debate about how many are needed per household type. Under local housing allowance rules, household size and the age and sex of dependants determine how many bedrooms are needed, with exemptions for disabled people, and this extends to housing benefit rules.

As a rule of thumb, it is uncontentious to say that typical young families need three or more bedrooms, but how many do, say, an older couple need? Consider a couple who decide to move from a house to an apartment because it is easier to maintain and safer to grow old in. We might assume one bedroom is enough, but two would accommodate a live-in carer, while three would allow for family visits.

For illustrative purposes, we will assume that types A, B, C, E and H households have 3+ bedrooms, types D and F two bedrooms and type G one bedroom, on average. We apply these averages to future housing needs (from the previous section) to produce a breakdown by bedrooms and space requirements.

The results are given in Table 7 and sum to the total dwellings given in Table 5, but now the number of dwellings is split by bedrooms and space requirements. It shows that dwelling demand based on future household arrangements is set to increase by 1.5m single-bedroom dwellings between 2015 and 2040, 2m two-bedroom dwellings and 1.2m 3+ bedroom dwellings (4.7m in total).

Table 7: Dwelling stock requirement and living area in square metres based on average bedrooms per household (millions) showing uplift needed 2015-2040

Average bedrooms per household	2000	2015	2020	2030	2040	New stock required (m)	Floor area required (m sq ms)
1	4.24	4.94	5.23	5.85	6.44	1.5	72.8
2	8.76	10.01	10.50	11.32	12.03	2.0	141.4
3+	11.52	12.64	12.89	13.49	13.81	1.2	106.2
Total	**24.52**	**27.58**	**28.62**	**30.66**	**32.27**	**4.7**	**320.4**

How does this match up with the present housing stock? The total net additional space requirement between 2015 and 2040 is 320.4m square metres. To put a rough scale on this, it would equate to building two new towns of 100,000 dwellings every year for 25 years.

This uses average floor space based on the mid-point in the final column of Table 6. However, a major issue for older people is that many modern apartments are built to the smallest space standards and situated in tower blocks in urban areas, and so are not suitable for older living.

We attribute this to the business model used by developers which caters for young urban professionals who are out at work or enjoying urban life for most of the day. Future demand will, however, be demographically driven by older people with very different lifestyles and living requirements.

Comparison of estimates with actual dwelling stock

The Valuation Agency provides a comprehensive breakdown by age, property type and bedroom for 24m properties in England and Wales for 2015. Local authorities publish similar breakdowns by number of bedrooms for their 1.6m stock (also England and Wales). Valuation Agency data show that two thirds of domestic properties are houses of two or more storeys (terraced, semis, or detached), 10% are bungalows and 22% apartments. Of these, 60% have three or more bedrooms. Local authority data, in contrast, show that their dwellings are split into roughly equal proportions of 1, 2 and 3+ bedroom units.

Although 60% of all properties have 3 bedrooms or more, this applies to less than 2.1% of all apartments. In

other words, the scope for older couples to move from a typical 3-bedroom property to a 3-bedroom modern serviced apartment is likely to be extremely limited, even if this is an attractive option. Bungalows, which are popular with older couples, are even scarcer especially in cities where land values are higher.

Downsizing to a 1- or 2-bedroom apartment is easier, but flats of an appropriate quality and size are scarce compared with the availability of houses. The net effect of this is to deter people from moving into more manageable properties as they grow older – for example, with shared management, communal gardens, underground parking, lifts and a concierge[6].

Table 8 compares the assessment of housing needs in 2015 contained in Table 7 with the two previously mentioned benchmarks. The figures are expressed as a percentage of all dwellings based on Valuation Agency data, local authority data and our own breakdown of bedroom needs.

The Dwelling Index falls between the two benchmarks. In local authorities, the percentage of dwellings with 1, 2 or 3 bedrooms tends to be a good fit with household profiles, taking a strict view based on tight specifications for bedroom requirements.

Using a more generous allocation of bedrooms, our findings suggest a need for 45.8% of all properties to have 3 or more bedrooms. This compares with 60% of current properties. To put this result differently, the average person is over-bedroomed compared with their needs. This argues for a diminishing share of 3-bedroom accommodation and an increasing share of 1- and 2-bedroom accommodation.

Table 8: Percentage breakdown of bedroom capacity in the all-dwelling and local authority sectors in 2015, compared with requirements in the Dwelling Index*

Bedrooms per household	Actual all dwellings	Local authority dwellings	Dwelling index
1	11.7	31.3	17.9
2	28.3	33.5	36.3
3+	60.0	35.2	45.8
Total	100.0	100.0	100.0

**based on given assumptions about household type and bedroom needs*

These assessments concur with the actual composition of new homes built since 2005. A recent analysis by parliament found that 44% of new builds were flats compared with 18% of existing stock, with 2-bedroom dwellings accounting for 40% of new builds and 3 or more bedroom properties for 44% of the total[7]. The principal problem is that there has not been enough building in total.

To summarise, this chapter has revealed that the mismatch between dwelling use and dwelling needs will grow. This not a gap that can be closed overnight, but it could be managed with housing policies that encourage people to downsize and developers to build appropriately. These are areas to target when framing future housing policy, assessing local plans and judging whether existing policies are fit for purpose.

6. Ideas on these lines are not new. See, for example, Best and Porteus (2012) Housing our Ageing Population: Plan for implementation. https://www.housinglin.org.uk/_assets/Resources/Housing/Support_materials/Other_reports_and_guidance/Housing_our_Ageing_Population_Plan_for_Implementation.pdf
7. Tackling the under-supply of housing in England, by Wilson and Barton. Briefing paper Number 07671, 3 September 2018. House of Commons Library.

Chapter 3: The Dwelling Index and house prices

The scale of change in housing need suggests an immediate requirement of at least 220,000 extra dwellings per annum for the next few years. This compares with annual average increases in the housing stock of 200,000 per year, implying an ever-widening gap between supply and demand. The paradox is that since 1993, according to the Dwelling Index, the actual UK housing stock has exceeded 'need'.

This also makes the steep rise in house prices more puzzling – something else must be going on. One explanation is that population ageing has led to increasingly under-occupied properties. The average number of occupants per dwelling has fallen from 2.48 in 1980 to 2.36 in 2018. If occupancy today were the same as in 1980, there would be 1.3m more dwellings available.

Other contributory factors include the emergence of second homes and population growth – especially immigration – which have fuelled demand. In this chapter, we analyse the relationship between housing supply, housing needs and house prices. Bear in mind that understanding changes in prices is as much an art as a science – especially in the short run.

Historically, the best predictor of house prices was average earnings, but as prices have surged ahead of earnings this no longer provides a viable basis. Other variables have come into play making forecasting models more complex, which brings its own problems. An example is the one used by the Office for Budget Responsibility (OBR)[8].

It is noteworthy that demographic change is given short shrift in this and similar models, even though it is a crucial driver of housing needs. Our own work using a basket of variables, such as earnings, interest rates, housing supply, tax policy and foreign investment, produces an improved predictive model, but it does not reproduce short-run fluctuations very well.

Even if it did, there are other problems with using economic variables. Take interest rates, which are historically low. These work with other policy tools, such as quantitative easing, to inject liquidity into the economy. To be able to predict changes to house prices, one must consider not only their effects on prices, but also externally driven variables whose future values are not easily determined.

It turns out that the Dwelling Index is able to reproduce historical changes in house prices quite accurately. It is also relatively easy to use to forecast decades ahead and so better suited to long-term planning. However, it is not ideal for short-term use because the necessary demographic data are published infrequently, whereas prices are constantly evolving.

Changes in supply and demand since 1980

The 1980s were unusual because baby boomers were turning 30 and so housing demand would have been

8. Working paper No.6 Forecasting house prices, Toby Auterson, Office for Budget Responsibility. July 2014

exceptionally high. House prices rose accordingly. High borrowing rates made home ownership increasingly expensive, although the 'Right to Buy' scheme softened the cost of house purchase for council tenants.

This period coincided with a housing boom in which the stock expanded on average by about 200,000 a year – the long-run rate – or twice the rate of growth in the Dwelling Index, our proxy for demand. Oversupply caused the housing market to crash in the early 1990s.

Figure 4 shows the year-on-year percentage change in the housing stock and Dwelling Index and indicates the seeds of today's housing crisis. It identifies four phases between 1980 and the present:

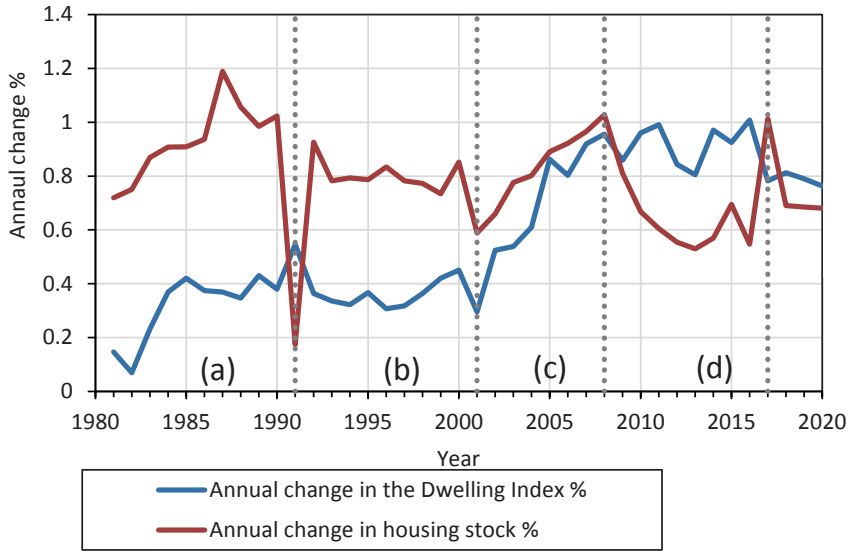
a. 1981 to 1991 in which the stock grew faster than the Dwelling Index before the housing crash in 1991;

b. 1991 to the next (smaller) crash in 2001 in which the growth in stock reverted to below 1981 levels;

c. 2001 to 2008 in which the Dwelling Index grew much more rapidly than the stock and corresponded with a period of high immigration and increasing prices; and

d. 2008 to the present in which the rate of growth in the Dwelling index has generally outstripped the rate of growth in the stock, corresponding with the aftermath of the financial crisis.

Figure 4: Changes in year-on-year rates of growth in the housing stock and Dwelling Index from 1980 to 2020



In general, house building moves up and down over the business cycle rather than with demand, which is smoother. The data show cyclical downturns in house building in 1980, 1991, 2001 and 2012, all business recessions. In contrast, increases in demand for housing are both smoother and steadier and, therefore, more predictable. The cyclical nature of construction is one reason why building activity has not stemmed prices. Construction lagged further behind demand after the financial crisis, and although it has since picked up, it is still below required levels.

It is important to note that because new houses are sold at a premium, they can actually worsen the problem they are intended to alleviate i.e. high house prices. To counter this effect, houses need to be built in sufficient numbers at a smaller size and at prices that first-time buyers, in particular, can afford.

The UK housing stock today stands at 28.3m units, having increased by 31% since 1980. This equates to a current 'surplus' of 0.8m dwellings compared with

the Dwelling Index. A key reason for this has been the growth in second homes, linked to the baby boomer generation, which has benefited from rising property values and parental legacies[9].

Foreign investment in UK property also increased significantly. Filipa Sá (2016)[10] found that foreign investment in expensive homes increased house prices in London considerably. She argues that not only did it drive up top-end prices, it had a 'trickle down' effect on the rest of the market, leading to lower home ownership rates.

The growth in private renting can be considered a by-product, as renting became cheaper relative to owning. Even so, the cost of private renting has been fuelled by the effects of immigration. Immigration slowly took off in the early 1990s and surged after 2000, adding an estimated 4.8 million people to the UK population since 1980.

The question addressed here is to what extent these changes could have been predicted at the outset and, if so, what do they tell us about the future prices changes resulting from demographic ageing and other population fluxes.

Dwelling Index and average UK house prices

Economic theory predicts a fall in house prices as retirees downsize to help pay for their retirement through asset decumulation. Research in several countries has found that prices tend to fall in line with decreases in the dependency ratio of people of working age to those aged 65+ – perhaps by as much as 25%.

In the UK, the dependency ratio has fallen steeply from 3.8 in 2007 to 3.3 today and is set to fall to 2.4 by 2030. There is no strong evidence of general price falls in the UK yet, although average prices have levelled out and there is regional variation – notably prices have started to fall in London.

A simple analogy is with a revolving door – as people die their assets pass to the next generation. Increases in life expectancy tend to defer the transfer of assets and so bolster prices. The same effect occurs with increases in the Dwelling Index due to higher birth rates or immigration.

With the first of the baby boomers reaching 80 from 2026, annual deaths are set to increase, which should release a lot of properties. The ONS forecasts that the number of deaths at ages 85+ will rise from 210,000 per year in 2020 to 336,000 by 2040, potentially freeing up considerable housing stock.

After testing several formulations, we found that the model that best replicates historical house prices results from splitting the Dwelling Index into three or four age groups. In two of the variants, we based model A on age groups 0-19, 20-64 and 65+; in model B, we further split the 65+ age group into 65-84 and 85+.

Using either model, we are able to statistically account for over 98% of the variation in average UK house prices between 1980 and 2017. We found that house prices are proportional to the difference in growth rates between the Dwelling Index and the stock. The main upward driver of house prices throughout this period was the 20-64 age group since it was the largest and had the greatest purchasing power.

Figure 5 shows the actual and predicted index of house prices based on the Dwelling Index, using a multiple regression model. Since 1980 actual prices have risen 12-fold, a pattern the model is able to replicate reasonably accurately. The rupturing of the link between earnings growth and prices after 2000 is considered to be one of the keys to the housing crisis.

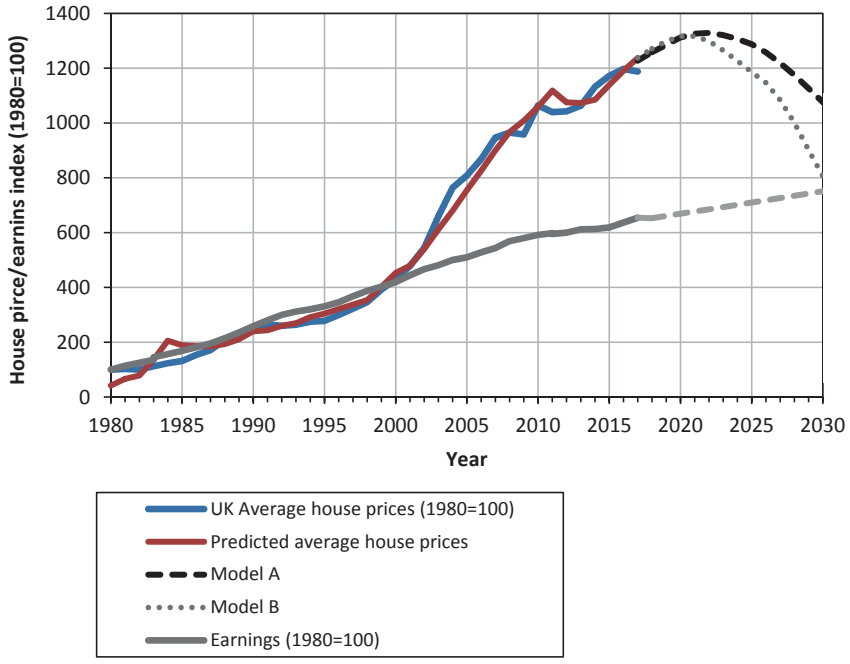
To estimate the effect of immigration on prices, we recalculated the Dwelling Index by subtracting net immigration from 1980. The results suggested that house prices would have been around 6.0% lower on average over the period as a whole, but 12% lower after 2000 after which immigration rapidly expanded[11].

9. Homes sweet homes – the rise of multiple property ownership in Britain (August 2017). Housing, wealth and debt, intergenerational commission, The Resolution Foundation https://www.resolutionfoundation.org/media/blog/homes-sweet-homes-the-rise-of-multiple-property-ownership-in-britain/
10. Filipa Sá. The Effect of Foreign Investors on Local Housing Markets: Evidence from the UK. School of Management & Business, King's College London
11. In April 2018 the Ministry of Housing. Communities and Local Government cited an effect of around 20% using a different approach but said this result was based on a model originally developed in 2007 and so should be treated with caution. https://fullfact.org/immigration/have-house-prices-risen-because-immigrants/

Looking ahead, population projections show that dwelling demand in the 20-64 and 0-19 age groups will level out, leading to reduced housing pressure from these age groups. Instead price momentum will increasingly be dictated by the dwelling needs of the older population, the only one of the three age groups set to grow significantly after 2020.

The chart contains a trajectory for future house prices based on models A and B. The results point to a fall in average house prices after 2022 (in fact, any model including a variable for older age does this). This prediction is contingent on the persistence of this relationship – it is not a cast-iron certainty.

Figure 5: Chart showing the actual movement in house prices and the trend predicted by the Dwelling Index 1980 to the present, alongside earnings (1980 = 100)



To summarise, our forecasts show that changes in the Dwelling Index will exert downward pressure on house prices in the 2020s, so that they fall back into line with earnings. In model A, prices will peak in 2023 and fall to 75% of their value by 2030; in model B they peak in 2020 and fall to 62% of their value by 2030. This does not seem unreasonable, especially if earnings are not keeping pace.

Dwelling Index and other occupancy types

As the availability of social housing has declined, private renting has become a substitute. Demand for private renting has increased in line with higher student numbers, a key market for private landlords, and also with immigration. Student renting tends to be short-term, but immigrants are likely to be older and rent for longer.

The data show that in 1980, 55% of dwellings were owner-occupied, 33% socially rented and 11% private rented. In 2015, only 17% were socially rented, while private renting had grown to 19% and owner occupation to 62%. The general effect of a tightening housing market has been to increase rents relative to earnings, making it more difficult for first-time buyers to save and so afford to buy their own homes.

The relationship of private renting with house prices is important: private landlords buy up stock, which pushes up both house prices and rent. Private renting has also

increased the cost of housing benefit, which subsidises rents. This was part of a conscious decision taken in the 1970s to move away from investment in bricks and mortar, i.e. building council homes, to focus on subsidies for individuals, as a step towards them buying their own homes.

The shift towards private renting has had repercussions for the quality of the housing stock. For example, a much larger percentage of private rented housing is classified as 'non-decent' as compared with socially rented or owner-occupied dwellings, although data show that better regulation has caused the percentage of non-decent private rented stock to fall.

Putting these details to one side, what are the prospects of the private rented sector following the predicted price falls of this research? We find a statistical correlation between the percentage of private rented accommodation and the ratio of house prices to earnings. The results suggest that a fall in house prices will result in a levelling out in the proportion of housing that is privately rented, and in rent rises.

The prospects for private renting will also hinge on whether more socially rented housing is built to meet the shortages in affordable housing. This is a political choice with, for example, the Labour Party promising to build 100,000 council or housing association homes a year for 'genuinely affordable rent or sale'.

The Conservatives have also revised their thinking and refer to building a new generation of 'council homes' in England. There is also a social housing revival in Scotland. But in all cases the small print is unclear – particularly the balance between ownership and affordable rents, and the financial rules under which schemes will operate.

Chapter 4: Effects of population ageing on housing policy and practice

This research has found that building more homes is not an adequate response to the UK's housing crisis. More measures are needed to address the under-occupancy of an increasing number of dwellings and the unaffordability of homes for first-time buyers. The central paradox underpinning this conclusion is that the housing stock, on paper at least, is more than sufficient to meet current housing needs.

However, the second paradox is that house prices are relatively inelastic to increases in the construction of new houses, in part because they are more expensive than existing ones. They also appear to be driven by other factors, one of which is inertia – it is as though the older generation is engaged in an involuntary hoarding of wealth, keeping prices at unaffordable levels.

Demographically speaking, we have entered a different phase in which housing needs are changing due to the ageing population. Chapter one showed that there will be a 30.4% rise in the number of older people living alone, from 8.5m in 2015 to 11m in 2040. Of these, 1.9m will be aged 85+, over twice the level in 2015.

Just as there are initiatives to help 'first-time buyers', the policy suggestions set out in this chapter can be characterised as help for 'last-time buyers'. The aim is to align buyers' interests to encourage what might be called 'right sizing' but effectively means 'downsizing' with additional refinements[12].

Collectively, these initiatives should pull in the same direction, effectively creating a national strategy for older people's housing[13]. The components range from building more homes for downsizers, financial incentives to reduce the cost of moving and, at the macro level, better planning and delivery, and a rebalancing of regional differences. This chapter highlights four policy enablers: building more affordable homes, building more retirement homes, tax policy and planning.

Building more affordable homes

The affordable homes programme marks a shift in government thinking to providing subsidies to house builders as well as to purchasers – whether for owning or renting. The programme is not without its problems. Announced in 2014, it is difficult to track due to the nature of the ad hoc and time-limited funding streams, each with varying eligibility criteria.

12. Rightsizing: Reframing the housing offer for older people. University of Manchester, School of Architecture. https://www.housinglin.org.uk/News/Rightsizing-Report-Reframing-the-housing-offer-for-older-people/

13. Housing for older people. Second Report of Session 2017–19. House of Commons Communities and Local Government Committee. Housing for older people. Second Report of Session 2017–19. House of Commons Communities and Local Government Committee. https://www.parliament.uk/business/committees/committees-a-z/commons-select/communities-and-local-government-committee/inquiries/parliament-2017/housing-for-older-people-17-19/

The concept of affordability is ambiguous, with numerous definitions. This means that statistics on the number of affordable homes constructed are easily manipulated[14]. A criterion based on sale price as a multiple of household income, adjusted by a local market factor, would be a better approach (*ditto* private and social renting). The best way to judge the effect of the programme is to look at overall construction statistics which, despite recent rises, still show a significant shortfall relative to past achievements, alongside a decline in home ownership and rise in private renting.

The majority of schemes supporting house buyers (rather than builders) come in the form of subsidies to purchasers or renters and are not directly construction-related. They tend to ease the cost of house purchase without reducing house prices – indeed, in some cases, they may actually serve to increase prices.

Of the schemes listed in Box 3, the longest running and most significant is 'Right to Buy', but its impact has dwindled as council homes are sold off. The critical point from a supply perspective is that local councils have not been allowed to replace the homes sold, so there is no net addition and fewer available for sale. This has reduced the supply of homes to young families and more generally postponed family formation. The government has now recognised the futility of this, lifting the borrowing cap on local authorities to enable them to build more homes.

Box 3: Government schemes supporting home ownership

- **Right to buy or acquire:** 'Right to Buy' has been around since 1980. It allows tenants to buy their home from their local council at a discount. 'Right to Acquire' is a similar scheme for registered providers of social housing. Currently sales of council homes are running at around 23,000 dwelling units a year (worth about £1bn). This compares with 150,000 a year in the early 80s.
- **Help to buy (equity loan scheme):** Prospective home owners, putting down a 5% deposit, can borrow 20% (up to 40% in London) from the government towards the cost of a new-build property, up to a value of £600.000, with nothing to pay on the loan for five years. Help to Buy has been very effective, with 170,000 new homes since 2013, or 81%, sold to first-time buyers.
- **Shared Ownership:** This allows first-time buyers and those unable to afford open market prices to purchase a 25% to 75% share of a newly built home or an existing one through a resale programme. Rent is paid on the remaining share. We can find no coherent time series to show how well this scheme is performing but estimates are for 41,000 homes.
- **Starter Homes:** The aim of the programme, first announced in 2014, is to provide 200,000 affordable homes by 2020 to be sold at a 20% discount. Buyers must live in the property for at least five years. Again, there are no coherent statistics on how many have been built or even if any have been built.
- **Help to Buy ISA:** This tax-free savings account was launched at the end of 2015. The government adds a 25% bonus up to £3,000 on purchase of a first home. This is one of two examples linked to helping first-time buyers to save for a deposit. While the scheme is welcome, the danger is that by the time savers are ready to buy, prices have increased.
- **Lifetime ISA:** 'LISAs' are savings accounts introduced from April 2017 as a way to help those aged 18-40 save for a home or retirement. The limit is £4,000 a year and any money put in the account will be boosted by a 25% government bonus. Similar arguments apply as for Help to Buy ISAs.

14. Briefing Paper Number 07747, 21 September 2018.What is affordable housing? W. Wilson and C. Barton. House of Commons Library. https://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-7747#fullreport

Perhaps the salient point is not whether the schemes are worthwhile, but that it is difficult to monitor the programme in its entirety, other than to say it is not doing enough to solve the housing shortage. The Chartered Institute for Housing does a remarkable job in piecing together data from across the UK and its annual review is the most comprehensive analysis available of the UK housing market[15].

It shows that planned government support for affordable and private market housing investment in England from 2016-17 to 2020-21 is £19.4bn, but this needs to be backed up with out-turn data from the inception of each scheme. The fact that the review is published by an independent body rather than by the government illustrates a lack of oversight and what might be called 'whole systems thinking'.

It is notable that housing benefit, which makes rents more affordable, is not considered alongside these schemes, even though it costs over £25bn a year. The bill is increasing because more people are living in private rented accommodation where rents are higher. The obvious solution is to build more social housing.

An improved monitoring system would cover government subsidies to both the supply and demand sides. A comprehensive set of accounts should be published showing the number of homes built and sold under each development programme. This would include the cost of subsidies to purchasers and savers, as well as housing benefit and the tax-take across the piece – all in one place.

A final important point is that current schemes are aimed primarily at people trying to get onto the housing ladder, rather than doing something for 'last-time buyers'. Yet this is where the blockages in the housing pipeline are increasingly occurring. Tackling this issue should be hoisted much higher up the housing policy agenda.

Building more retirement homes

The housing needs of the older population clearly deserve more attention. Although many older people live in suitable accommodation, needs can change rapidly and large numbers live alone in properties that are not designed for older living and/or are too large for their requirements.

Moving into more suitable accommodation would increase their quality of life and have a ripple effect through the market by releasing stock. This could be better managed using forethought and targeted incentives. For example, downsizing options around the time of retirement differ from options at, say, 80 because the motivational triggers and housing solutions are different.

Research by the Institute of Fiscal Studies finds that downsizing around retirement age is still relatively unusual, but is slightly more likely for people in their 50s and 60s than for those in their late 60s or 70s. Moving at older ages is usually triggered by other factors such as the death of a partner, an inability to cope or a need to release cash to pay for care.

A key factor for potential downsizers around the time of retirement is the shortage of suitably sized accommodation, especially apartments. Room sizes are often too small compared with what they are used to. One or two bedrooms is the norm when three would be preferable to accommodate family visits or a live-in carer.

That downsizing is not straightforward is also evident from council tax data. Property tax bands range from A to H in the UK (Northern Ireland excepted) depending on the value of the property, with band A houses being the smallest in size.

15. See Chartered Institute of Housing UK Housing Review 2018 http://www.cih.org/publication/display/vpathDCR/templatedata/cih/publication/data/UK_Housing_Review_2018 and also data sources at https://www.ukhousingreview.org.uk/ukhr18/compendium.html#macroeconomy

Bands A to C account for about 80% of all properties, but with much fewer band A than band B properties there is little to downsize to. This may mean moving out of the area to find a property that is both suitable and affordable. One way to address this problem is to build more retirement homes, including in purpose designed communities.

Property specialist Knight Frank notes that there are only 725,000 retirement housing units across the UK[16]. With 28 million homes in total, this means that retirement housing accounts for around 2.6% of homes and, of this, private retirement housing units (162,000) account for a tiny 0.6% of stock.

Despite their small number, purpose-built retirement homes are growing in popularity. There are different types, but a broad distinction can be drawn between those that offer care or not. For example, 'extra care' specialist housing is designed for people from around age 60. It is similar to sheltered housing but also offers help with personal care and household chores.

One option is to move into a retirement community with a mix of ages, offering services and social amenities in situ and the opportunity to step up to nursing care when necessary. It has been shown that retirement communities help to improve health, combat loneliness and even increase life expectancy[17]. However, as Knight Frank has found, there are not enough of them.

Modern retirement communities are built to a high specification, designed to be thermally efficient with low running costs and in attractive surroundings. Resident ages start at around 65 with a range of property types available. The key to their success is the financial arrangements, which need to be affordable and adaptable so that individuals are not forced to move on for financial reasons.

Several models are available to finance retirement living, ranging from outright ownership to renting and part exchange, in which the provider purchases a home in exchange for alternative accommodation avoiding the hassle of a housing chain.

Tax policy

Given that downsizing is still relatively rare, despite the number of older people living alone in large properties, it is surprising that more use is not being made of the tax system to encourage change. Indeed, there is a growing consensus that current tax policies make it more expensive to downsize or give up surplus or empty accommodation than to stay put.

Many will have extended their homes as an alternative to upsizing because of the cost of moving, diverting resources from house building into home extensions. Of course, the results can be spectacular, but the key point is that, coupled with high moving costs, it adds to the inertia.

This is a complex area of policy, but relevant taxes are council tax, stamp duty, inheritance tax and capital gains tax. While some of the suggestions below have been foreshadowed elsewhere, the aim of this section is to consider them as a whole.

Take council tax, which is levied to pay for local services such as social care, rubbish collection and street maintenance. Councils have discretion over whether to apply discounts to empty and second homes. In localities with high housing needs and high proportions of vacant or second homes, it would make sense to remove the discounts.

Yet when it comes to levying capital gains tax on the sale of second properties, there is a case for tax breaks to encourage their release – for instance, if they were sold to first-time buyers. One way to do this would be to extend capital gains allowances based on buyer profile.

Stamp duty for standard purchases is levied on every transaction of more than £125,000, with rates rising from 2% to 12%, according to the price band. For buy-to-let and second homes, stamp duty surcharges apply. The tax kicks in at 3% for purchases up to £125,000 and rises to 15% following the same band structure as for standard purchases.

16. Retirement housing market update Q1 2018. Knight Frank. https://content.knightfrank.com/research/696/documents/en/uk-retirement-housing-market-update-q1-2018-5284.pdf

17. Does living in a retirement village extend life expectancy? The case of Whiteley Village. L. Mayhew, D. Smith, and B. Rickayzen. ILC-UK. https://ilcuk.org.uk/does-living-in-a-retirement-village-extend-life-expectancy-the-case-of-whiteley-village/

For first-time buyers there are stamp duty exemptions up to a point, but the tiering of the duty means far higher charges for more expensive homes. While the overall effect has been to increase tax revenues, the data show that it reduces the number of transactions. Its impact on larger homes, typically owned and occupied by older residents, is bound to deter downsizing[18].

It is the scale of charges that is eye-watering. On a typical property costing £300,000, stamp duty is only £5,000 (zero if a first-time buyer). However, retirees wishing to downsize may face prices of £800,000 or more for a 3-bedroom apartment in a popular area. Stamp duty in this case would be £30,000, which would deter many and increase inertia. Older people are emotionally attached to their homes and such barriers will only entrench this feeling.

Equity released by downsizing can be re-invested, used to pay for lifestyle improvements, or gifted to descendants. The estate will be smaller on death as a result and so there will be less inheritance tax to pay. Again, however, high stamp duty makes this option much less attractive as worked examples tend to show.

Much depends on the particular objectives of individual households – whether to gift wealth to descendants now or to bequeath it later. The danger is that, by holding onto a property until death, a sale is delayed perhaps 20 years or more, which means fewer homes become available and eventual beneficiaries skip a generation.

The net result is a perpetuation of under-occupation by tipping the balance in favour of staying put. One-off stamp duty breaks for 'last-time buyers' could help change this and encourage more downsizing at earlier ages, rather than forced sales on death or transfer to care, especially if the original property could be sold to a first-time buyer or young family.

Better planning and delivery

Previous analysis suggested there would be a need to build two new towns of 100,000 dwellings every year for 25 years. Other estimates put the requirement even higher in the near term. One of the difficulties is that housing policy remains a devolved function, and arrangements and outcomes differ by area.

A national policy would help, especially as the government's housing white paper, published in 2017[19], found that local authorities were failing to plan for enough homes to meet local requirements, and that 40% had no plans at all. The white paper pointed to failures in the planning system, which is widely seen as slow, costly and complex.

Other supply-side barriers include too little land suitable for development being made available. An important but sensitive part of the debate has to do with building on green belt land, juxtaposed with the availability of infill, redundant or change-of-use space in built-up areas.

Population declines in some northern cities are the counterpart of population increases in southern England where land is in short supply. This pattern needs to change. Improved regional plans to bring inward investment and modernised infrastructure to declining areas would help stem this tide.

Overlaid on this are changing shopping habits leaving retail properties in some high streets empty, but also providing an opportunity to switch their purpose towards residential, community and leisure uses and separate people from traffic. (Ideas to release land and speed up development are summarised in the House of Commons briefing paper cited earlier[20].)

18. Scanlon, K, C. Whitehead and F. Blanc. A taxing question: Is Stamp Duty Land Tax suffocating the English housing market. LSE. http://www.lse.ac.uk/business-and-consultancy/consulting/assets/documents/is-stamp-duty-land-tax-suffocating-the-english-housing-market.pdf
19. 2017. 'Fixing our broken housing market'. Ministry of Housing Communities and Local Government. https://www.gov.uk/government/organisations/ministry-of-housing-communities-and-local-government
20. Tackling the under-supply of housing in England, by Wilson and Barton. Briefing paper Number 07671, 3 September 2018. House of Commons Library. https://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-7671

Chapter 5: The implications of housing wealth for financial services

Housing wealth is second only to pensions as a source of personal wealth in the UK. According to the ONS, net housing wealth is estimated at £4.6 trillion with 65% concentrated in households aged 55+. The median wealth based on all asset types, including pensions, in the 55-64 age group is over £500,000. This level of resources makes it a subject of intense interest for addressing a range of later-life issues.

This chapter is particularly concerned with the use of housing wealth in retirement and the role of financial services in unlocking that wealth. Housing is an illiquid asset and so releasing equity must involve either borrowing against a fixed asset or selling up. The reasons for drawing upon housing wealth are varied and need to be seen in context.

Classically, borrowing or selling up is designed to smooth consumption over the life cycle or pay off debts. Financial necessity, such as paying for long-term care, bequest motives and management of tax liabilities make planning for all eventualities a fraught and difficult process. Nevertheless, the benefits of better planning and execution are tangible and result in lifestyle improvements for the individual.

Today, more than 75% of the 55+ age group have property wealth. This contrasts with a steep fall in property ownership among younger age groups caused by the acceleration in house prices, especially since 2000. In 1990, 55% of dwellings were owner-occupied. The proportion peaked in 2005 at 69% before falling back to 62% today. It could fall to 50% by 2030, as extrapolated from present trends.

Because prices have risen so much, the tendency is to buy later, to borrow more and to take longer to pay off the debt – often not until owners reach their 60s. To illustrate the increasing financial strain involved in house purchase, mortgage advances were up to 3.0 times salary in 1990 and in 2014, 4.5 times. This is unsustainable in the long run and so is house price inflation.

This implies that housing wealth cannot be relied upon forever as a financial backstop or alternative to a good pension or working for longer. There are also risks to the loan providers if they over-lend as asset values go into decline. It is with these caveats in mind that we consider the role of financial services in innovating in the area of utilising housing wealth.

This research has already identified demographic ageing as among the main causes of rising house prices – although it has also set the scene for a fall in the 2020s. The rise has been associated with increasing under-occupation and a growth in second homes (facilitated by the accumulation of wealth in the hands of older generations), coupled with low rates of house building.

By far the best way for houses to become affordable is for prices to fall and earnings to rise. The government can create the tax and policy environment needed to encourage the adjustment. Putting the government's role to one side, windfalls in property values have expanded the potential role of intergenerational wealth transfers though gifting and inheritance. They also provide more scope for older people to afford social and long-term care and offer new ways to fund retirement.

Because rising prices are not a cast-iron certainty, expectations must be managed and caution exercised in what is an extremely complex area of financial policy and regulation. In addition, not all older households are lucky enough to own 100% of their equity.

The number of mortgages being arranged that are expected to mature after the customer has reached 65 are increasing. While they may still have significant equity in their homes, the outstanding debt will reduce their flexibility.

Box 4 draws a distinction between economic objectives and the means of achieving them. It also indicates that the options are partly age related and best pursued at certain ages rather than being left until it is too late. Economic objectives are considered under four headings: downsizing, equity release, funding long-term care and immediate needs annuities.

Downsizing

Downsizing involves the sale of a person's or couple's main property and their move to a smaller or less expensive one. In order to release cash, the cost of the new property must be less than the net proceeds from selling the old property, after taking removal and transaction expenses into account. The funds released can be used to fund retirement, pay off debts and make gifts to heirs.

Downsizing usually requires a trigger such as retirement, children leaving home, the death of a partner, financial pressure or becoming too old to cope. The new property can be of any kind: it may involve a vacant property, moving in with someone else or into a purpose-built extension to, or sub-division of, an existing dwelling.

Research by the IFS found that of those aged 50+ in 2014-15, in England, 80% were owner-occupiers, indicating the potential for people to downsize and monetise their wealth[21]. The probability of moving out of owner-occupation increases markedly from age 80, driven by care needs with the destination being an institution or other arrangement offering more support.

More vacant homes would be created if older households downsized sooner – around the time of retirement or after the children have left home – in their 50s or 60s. This would free up family homes and avoid under-occupancy of the existing housing stock, which would help achieve policy goals. But, as we have already identified, there is a shortage of properties to downsize to.

Potential downsizers are dissuaded by the shortage of affordable alternatives in the areas where they live, small room sizes compared with what they are used to and the lack of bedroom space for family visits or a live-in carer. Some are attracted to retirement communities, although this inevitably means dislocation to a degree.

Others may sell up and move in with relatives or companions as a way of freeing up equity. However, one of the problems is that selling a house is time consuming and stressful and so anything that can be done to ease this is helpful. Housing chains are a major cause of delay and are unhelpful if there is an urgency to move triggered by a particular event such as the death of a partner.

Part exchange, where the builder of the house being moved into acquires the purchaser's property as part of the deal, is an intriguing antidote to housing chains. This sort of transaction can be used to downsize and to release equity in the current home. The potential amount realised is diminished, however, because the house is bought at below market value to compensate the builder for holding it for an indefinite period.

Currently available schemes apply to most types of residential property, regardless of whether the new property costs more or less. Benefits of moving into a new build include savings on repairs and redecoration, but the part-exchange transaction does not come cheap and may have strings attached.

21. Rowena Crawford (2018) Use of primary housing wealth, The use of wealth in retirement IFS Briefing Note BN237 _2018. https://www.ifs.org.uk/publications/12959

Box 4: Monetising housing wealth

There are a range of options for monetising or using housing wealth, depending on a person's age and circumstances. These fall into the four basic types shown in the table.

Age category	Downsizing	Equity release	Long term care insurance	Immediate needs annuity (INAs)
A	×	×	✓	×
B	×	✓	✓	×
C	✓	✓	✓	×
D	×	✓	×	✓

Key: ✓ more likely to apply; × less likely to apply

Downsizing is the exchange of one property for a smaller, less expensive one, in which a profit is made on the difference in sale and purchase prices after taxes, moving and transaction costs. It can apply to both the main residence and second home.

Equity release is a loan secured on the property; known as a life-time mortgage, it is repaid on death or transfer into a care home. Consumers are protected by a non-negative equity guarantee (NNEG) so that there is nothing to pay if the home is worth less than the loan on death.

Long-term care insurance involves financial sacrifices through premium payments. This product allows purchasers to pay for future care costs via a deferred premium payable after death or sale of the property.

Immediate needs annuity (INA) is an annuity contract that can be financed in cash or through the sale of all or part of a property to provide a guaranteed income for life or a specific period of time. It may be used to pay for care.

Category A, the under 45s, will usually have outstanding mortgages and family commitments. The only category worth considering is long-term care insurance, the premiums for which increase with age.

Category B, age 45 to 64, is a transition age group and their options will depend on whether they have children living with them, or are considering retirement but need more cash to fund it, or wish to make a gift to their children.

Category C, age 65 to 74, is the peak age range for equity release, but exchanging equity in the home for long-term care insurance is also worth consideration. INAs are more typical among older members of this age group.

Category D, aged 75+, downsizing decisions may be driven by changes of circumstance such as ill-health or death of a partner. INAs are used to pay for care.

[1] For more information on any of these also see ILC-UK publications archive e.g. The UK Equity Bank – towards income security in old age; Flexible and affordable methods of paying for long term care insurance.

Downsizing is not guaranteed to release cash in every case. The wide range of scenarios includes ones in which the downsizers become or remain borrowers. Taking out a new mortgage or rolling over the existing one in order to downsize is likely to become more common as borrowing terms extend beyond the mid-60s.

One option is a fixed-term interest-only mortgage, which costs much less per month than a repayment mortgage. The borrower simply has to show they can afford the monthly interest repayments. Loans are usually only paid off when a person dies, moves into long-term care or sells up. However, interest payments eat into retirement income and failure to keep up with payments could result in repossession.

The UK mortgage market comprises about 1.8m transactions a year worth £300bn, but less than half involve property acquisitions. The rest comprise adding to existing mortgages or switching to better deals. According to ONS, borrowers age 55+ accounted for less than 5% of the market in 2017. This includes life-time mortgages, discussed in the next section, which are a particular growth area.

Equity Release Mortgages

The second way to release cash on property wealth is through equity release. There are two basic ways of doing this – via a life-time mortgage and the much less common home reversion. Reversion involves selling all or part of your property at less than its market value in return for a tax-free lump sum or regular income. Currently, reversion plans account for less than 0.1% of new plans according to the Equity Release Council Spring 2018 report[22].

A life-time mortgage lets a home owner over the age of 55 access cash based on the value of the home, usually at a fixed rate of interest. The loan is repayable on death of the surviving owner or their transfer to a care home. A life-time mortgage can be thought of as a standard mortgage without the need to make regular payments.

Equity release funds can be accessed flexibly – as a lump sum or drawn down in small packets as and when required. The latter arrangement means that interest payments roll up more slowly and so, where there is a bequest motive, do not immediately take a large bite out of a potential legacy. Loans can also be repaid in full or in part if the borrower has cash to spare.

The current industry average borrowing rate for a fixed-for-life equity release mortgage is 5.4%. The key attraction of an equity release mortgage is that the loan is for an indefinite period, during which the borrower does not have to pay anything.

Equity release is a major undertaking and should only be done with independent advice and in consultation with close family. Industry standards known as the safe home income plan (SHIP) help protect the consumer – these include the promise that borrowers can remain in their home for life. They also have the right to port the plan to another property and to independent legal advice[23].

Risks are significantly reduced by the promise of a no negative equity guarantee (NNEG), so that there is nothing to pay if the value of the property at the time of disposal is less than the principal borrowed and accumulated interest. A combination of increases in life expectancy and a fall in house prices could tip the arrangement into negative equity. As well as protecting the consumer, NNEG acts as an antidote to reckless lending.

The critical measure here is the loan to value (LTV) ratio – i.e. the value of the property at the inception of the loan. According to the Equity Release Council, the current industry LTV average is 32% (e.g. borrowing £100,000 against a home worth £300,000)[24]. Appendix B

22. The Equity Release Council represents the vast majority of the equity release sector. Its autumn 2018 report can be found at https://www.equityreleasecouncil.com/document-library/equity-release-market-report-autumn-2018/

23. Equity release products are regulated by the Financial Conduct Authority and the Equity Release Council's code of conduct, the safe home income plan (SHIP), introduced in 1991.

24. See for example 'Asleep at the wheel The Prudential Regulation Authority & the Equity Release Sector'. (Kevin Dowd. Adam Smith Institute, London 2018), which is concerned with risks from the 'No Negative Equity Guarantee (NNEG)' consequent on high borrowing and falling property prices.

analyses this point under a range of scenarios and finds 30% to be a reasonable benchmark, but it does not protect the lender in all foreseeable circumstances.

While equity release does not solve the problem of under-occupation, it is clearly a useful mechanism for funding retirement plans. The proceeds can be used to finance home improvements – including adapting it for elderly occupants, gifts and repayment of other debt, or to fill a pension hole. But home equity is a finite resource.

While, on balance, equity release encourages people to stay put, it does not bar downsizing at a later date e.g. via the right to port the mortgage or contractual downsizing protection. Normally the existence of a mortgage on the property is an encumbrance, reducing flexibility and limiting the potential net proceeds to put towards a new property.

Monetising equity in a property may also be an aid to inheritance tax planning by borrowing just enough to remain under the IHT threshold. Under the latest pension reforms, unused pension pots can be passed to younger generations and are not subject to inheritance tax. This arguably boosts the case for equity release in cases where it may be better to spend non-pension wealth before drawing down pension funds[25].

There are potential downsides to equity release. If it is used to buy an annuity as protection against longevity, income tax might be due and so it is better to put the proceeds in a tax-efficient savings vehicle such as an ISA or simply to draw down the money only when it is needed. The cash generated can also reduce entitlement to means-tested benefits if a person would be otherwise eligible[26].

Since 1991, nearly 420,000 homeowners have accessed over £22bn of housing wealth. The market is growing with 37,000 new plans in 2017 and borrowing at just over £3bn, which has continued to rise rapidly. Average borrowing is between £60,000 for drawdown and £100,000 as a lump sum, with drawdown customers slightly older at 72 than those taking lump-sums who average 69.

Figure 6 shows the progress of the equity release sector since SHIP standards were introduced in 1991, with forecasts to the end of 2018. The upsurge (from a low base) in customers and lending reflects the arrival of big new entrants such as Legal & General. It is also a sign of growing demand and the competitive deals on offer. Growth is set to continue, driven by the expanding elderly population and pension shortfalls due to the demise of defined benefit occupational schemes.

Limitations will be levels of future home ownership in the target age group and house prices, which are not guaranteed. As borrowers become more familiar with the options available, we expect drawdown plans to become more popular than lump sums. The advantages are a slower roll-up of interest and alignment with tax planning.

Paying for long-term care

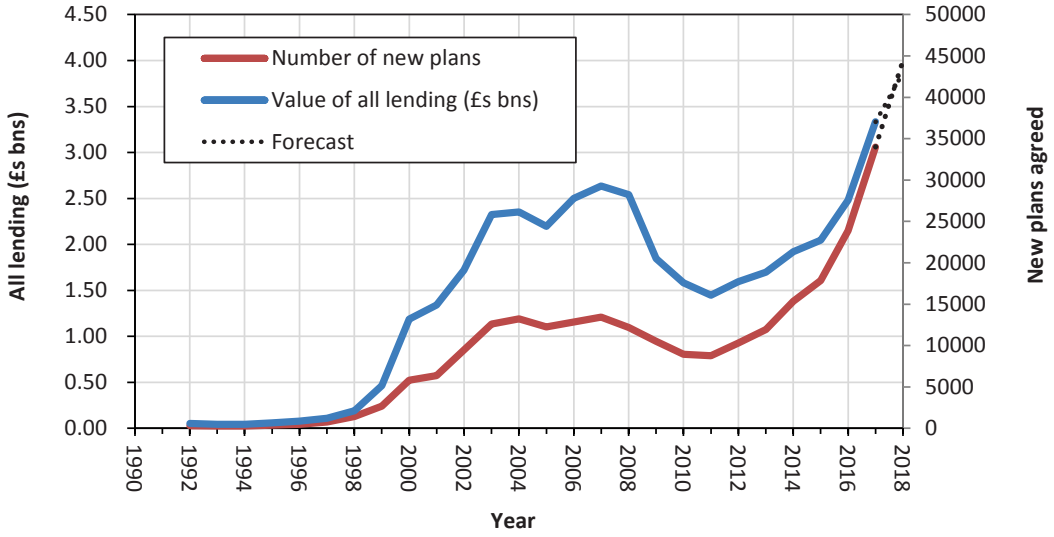
The massive rise in the number of older people is pushing up demand for care. Taken with the tightening of public funding, this means most people will be expected to contribute to and plan for their own care. How to pay for long-term care has been a hot topic in the insurance world and government policy circles for years.

History shows that individuals are very reluctant to save for care. The unknown expense of social care is a factor, while people are generally loth to pay for an insurance product they may never use. The premiums eat into their current standard of living or the money set aside for their retirement.

25. Any funds paid from your pension to beneficiaries are tax-free, if you die before age 75. Post 75, the inheritor pays income tax at their marginal rate on any withdrawals from the fund, whether as a lump sum or income.

26. The UK Equity Bank - Towards income security in old age. International Longevity Centre -UK https://ilcuk.org.uk/the-uk-equity-bank-towards-income-security-in-old-age/

Figure 6: Chart showing new equity release plans and borrowing levels since 1992 (source: Equity Release Council)



It is telling that there are no longer any providers of traditional pre-funded long-term care insurance products in the UK. Faced with other demands such as mortgage payments and supporting children through university, people have tended to take their chances with care costs rather than pay into insurance schemes.

The cost of long-term care is considerable, with typical bills amounting to well in excess of £100,000 for an average spell in a care home of 130 weeks. One solution, proposed by Mayhew and O'Leary (2014)[27], is to ringfence a proportion of the equity in the home up to the value of any care cap, after which costs would be met by the state. This is dependent on the state introducing a capped care cost system, as proposed by the Dilnot Commission but never implemented[28].

A second potential solution is to use housing wealth to purchase an insurance premium that would not be payable until after death, avoiding the problem of making sacrifices in one's current standard of living.

Worked examples are set out in Mayhew et al (2016), in which different methods of payment are compared on an actuarially fair basis[29].

These range from the traditional pre-funded variety to one based on using equity in the home with the insurance premium paid on death or transfer into care. Like the first idea of ringfencing a proportion of housing equity, the contract in this case could involve committing a proportion of the equity to the insurer or some other remuneration mechanism.

This fits well with personal retirement objectives such as having spare cash for leisure, holidays and family visits, and the ability to gift money to children or grandchildren. It also enables people to retain control over their finances while having peace of mind that care costs will be covered, without falling back on the state. Another potential advantage is reducing exposure to inheritance tax, since the deferred premium payment would be an allowable expense.

27. L. Mayhew and D. O'Leary: Unlocking the Potential, DEMOS. https://www.demos.co.uk/project/unlocking-the-potential/
28. Fairer Funding for All, Report of the commission on funding care and support. Department of Health 2010. https://webarchive.nationalarchives.gov.uk/20130221121534/http://www.dilnotcommission.dh.gov.uk/our-report/
29. L. Mayhew, B. Rickayzen and D. Smith (2016) Flexible and affordable methods of paying for long term care insurance. ILC-UK. https://ilcuk.org.uk/flexible-and-affordable-methods-of-paying-for-long-term-care-insurance/

Consider the alternatives for paying for care in Table 9: A: do nothing but risk falling back on the state; B: purchase insurance with a single premium payment using savings; C: make regular monthly or annual premium payments, which cease if the product is triggered; or D: purchase by a payment after death using the value of the home upon sale (this could be based on a percentage of the value of the home or by a loan secured against the house).

Based on actuarial methods, this research finds that designation of a percentage of the equity for this purpose is fairly priced, with fewer downsides compared with paying cash upfront or in instalments. The basic pros and cons of each method are contained in the table. It can be seen that 'do nothing' results in a saving, but only if care is not needed – though clearly this cannot be known in advance.

To qualify for state support a person must have assets of less than £23,250. Realistically this test would disqualify all home owners, which means that their homes are at risk and might have to be sold to pay for care. The equity-for-insurance idea would provide some protection against this eventuality.

Table 9: Pros and cons of long-term care insurance based on method of payment

Category	Method of payment	No reduction in current standard of living	Gift opportunity	Less likely to fall back on the state if care needed	Possible reduction in exposure to IHT*
A	Do nothing	✓	✓	×	×
B	Regular payments	×	×	✓	✓
C	Single premium	×	×	✓	✓
D	Housing equity	✓	✓	✓	✓

*Key: ✓ more likely to apply; × less likely to apply; *IHT = Inheritance Tax*

Immediate needs annuities

An immediate needs annuity (INA), also known as an immediate care plan or care fees' annuity, pays out a guaranteed income for life to help cover the cost of care fees in exchange for a one-off lump sum payment. The lump sum may come from savings or it could be sourced using equity release. The cost may be prohibitive at younger ages since the annuity is expected to be in force for longer and so might entail the sale of the whole property.

An INA is generally regarded as a 'back stop' – a product that is bought at the point of need. It provides protection against a person's money running out during their stay in a care home. The purpose is to cover the shortfall between a person's income and the cost of care until death. Pricing is based on the amount of extra income required and the insurer's assessment of how long it will be needed, based on the customer's state of health.

The annuity is paid directly to the care provider for the life of the individual and there is no tax to pay on the income. Capital protection allows the original capital to be protected in the event of the early death of the individual. The percentage of capital to be protected, usually up to 75%, would be returned to the estate less all income paid to the care home.

Relatively few INAs are sold each year and they appeal to people whose housing wealth makes them ineligible for state support, but who do not have sufficient income to pay care fees of around £50,000 a year. INAs would, arguably, not be needed if there were a stronger insurance market for long-term care needs. A parallel in the public sector is that local authorities will fund care fees in return for proceeds from the sale of the home at a later date.

Chapter 6: Conclusion

It feels as though the UK housing crisis has been with us forever – rising house prices, missed construction targets, lack of affordable homes and less social housing. Although this research agrees that more houses must be built to relieve the pressure on first-time buyers, this will not address the growing issue of under-occupancy and the lack of affordability caused by population increases and ageing. In other words, it is not possible to build our way out of the crisis.

The UK's housing stock is, on paper at least, sufficient to meet current housing needs. However, this statement must be tempered by several factors, including the high number of second and vacant homes. Using a new concept called the Dwelling Index, the research tracks the big increase under way in the number of older people living alone or in couples. This trend is set to continue for the next two decades and with it the problem of under-occupancy and vacant housing. The implications are hugely significant in terms of the UK's capacity to meet current and future housing needs.

Between 2020 and 2030, the number of households is set to rise by around 2m to 30.7m, but 35% of the increase will comprise older households and, of these, 61% will be one-person. The outlook is similar for 2030 to 2040, with further growth of 1.6m in the number of households to 32.3m – 38% of the additions are forecast to be older households, with 67% of those one-person. Without any change, this spells a very inefficient use of the housing stock, not to mention the health and social care implications of so many older, often frail, people living alone.

By contrast, family households are expected to grow by only 1.6% from 6.4m to 6.5m between 2020 and 2030 and by 0.5% between 2030 and 2040. To understand the extent of the mismatch, the analysis compared the type of accommodation available with housing needs, using the Dwelling Index and government space standards. We found that while 60% of homes have three or more bedrooms, there would be a much closer fit with dwelling needs if only 46% had three.

As the population ages, the degree of misalignment will increase, aggravating wealth inequalities between generations. The case for downsizing strengthens as people age, but current policies are having a deterrent effect due to high transaction costs and a lack of suitable properties to downsize into. This area needs urgent attention – whether it is building more attractive age-friendly and suitably sized apartments, or more retirement communities.

The Dwelling Index is positively correlated with house prices. For 1980 to 2015, when average house prices rose 12-fold, it showed that the key reasons were increases in second homes and immigration, with an indirect impact on private renting, too. Previously the best predictor of house prices was earnings, but this link ruptured after 2000 with house prices now eight times average earnings compared with about five times then.

The research predicts a fall in prices in the 2020s due to demographic factors. The most important of these are that baby boomers will start to die out and demand for housing from people of working age will level out. Both will help younger buyers, especially if accompanied by faster rises in average earnings. In the meantime, more new homes are needed, but to avoid a treadmill of ever-increasing housing stock coupled with falling occupancy, other measures are required.

Policies need to be closely aligned so that more efficient use is made of the housing stock. This means building more affordable houses for ownership and rent. House builders and local authorities hold the key to investment decisions, with reform of the planning process playing an integral part. Central government has the power to reform the planning system and reduce transaction costs, notably taxes, in a targeted way to encourage downsizing.

One of the key findings is that housing policy is piecemeal and too focused on first-time buyers, addressing symptoms rather than the underlying causes. We recommend that attention should also focus on 'last-time buyers' to ensure that downsizing plays a bigger role in the solution.

The role of financial services is crucial. The industry controls mortgage lending, including equity release, and can also provide housing-backed insurance to cover future care costs. The aim is to enable people to monetise their housing wealth to help fund a better retirement, move to more suitable accommodation and pay for social care.

However, individuals act within the parameters of fiscal policy, government investment in housing, tax and the regulation. If these are wrongly aligned, they can be counter productive

It is important, therefore, that the government understands the full effects of an ageing population on housing needs and that policies affecting housing all pull in the same direction. The summary at the beginning of this report sets out our recommendations, which are designed to provide a consistent and more strategic approach. They include an increased role for financial services in providing more flexible and innovative products to meet the needs of the ageing population.

By drawing together the available evidence, this research has been able to put a scale on the issues that the UK faces for the first time, in the context of an ageing population. The results demonstrate the case for a more holistic approach to housing policy and housing-related finance in order to:

- better align the housing stock with accommodation needs;
- improve incentives for downsizing; and
- to free up housing wealth.

While policy-makers recognise the existence of a 'housing crisis', it is not clear that they have grasped both the scale and the changing nature of the problem. Without a clear evidence base and a holistic approach, it will be impossible to draw up coherent plans to tackle both the housing shortage and the needs of an ageing population.

Appendix A: Enumerating household types

This appendix describes the enumeration of all possible household types based on the number of occupants (n) and their ages (r).

It is quickly apparent that as the number of permitted occupants and age brackets increases, the number of household types tends to become impractically large. Box 5 sets out the mathematical formula, based on occupancy and age mix, while the table enumerates all possible combinations with up to 6 age brackets and 6 occupants per household. For example, it shows there are 35 distinct ways of arranging households containing 4 occupants and age groups.

We commissioned tables from the ONS for England and Wales to determine how many people live in each of the 286 types with up to 10 residents per household. This shows that actual occupancy peaks at 4 persons per household with over 12m such households in practice. Although the number with 10 or more people is small (less than 100,000), we retain them for completeness.

As in Chapter 1, we use age brackets 0-19, 20-64 and 65+. This gives 286 discrete household types plus a residual category reserved for 11+ households. While this produces a table showing the number of possible household arrangements, it does not tell us how many of each household type there are – for example, single adults, couples or families.

The next stage is to distil them into the reduced number of household types based on the eight types, A to H, defined in Table 4, Chapter 2. Table A1 shows a simplified example for up to 4 persons and three age groups. It has 35 rows because there 35 possible household combinations.

The presence of one or more persons in a given age bracket is shown in columns a, b and c. The next column gives total occupancy by household type and is the sum of the previous three columns. A final column shows corresponding household types from A to H.

With up to 4 occupants, there are 3 distinct types of A and B households, 9 of type C, 4 of type E, and 3 of type F. Type D and G households are 1-person households – by definition, only one distinct type. The residual category, H, has 10 variants including households with no occupants (voids), bringing the total rows to 35.

Older households (Types C and D) are statistically more likely and increasingly common, compared with Type E three-generational households with live-in grandparents. This was not always the case – in previous generations Type E households were far more common.

Box 5: Enumerating all possible household sub-types based on age and occupancy

Although there are only eight basic types of household, these can be broken down into many sub-types depending on the age, sex and number of residents. Such detail is not required here, but it is important to be able to enumerate any population by household size and age group to determine their living and space requirements.

This is a combinatorial problem, which in layman's terms is defining the number of possible permutations of a set of objects into discrete classes. In this case it is the number of different household types that can be generated from sorting a given number of age categories among different household sizes.

Mathematically, the formula for the number of *N* household arrangements, with *r* age categories and up to *n* people is given by:

$$N = \frac{1}{0!} + \frac{r}{1!} + \frac{(r+1)r}{2!} + \frac{(r+2)(r+1)r}{3!} + \ldots\ldots + \frac{(r+n-1)(r+n-2)..(r+1)r}{n!}$$

where *n* is the number of occupants per household (0, 1, 2, 3, 4…*n*) and *r* is the number of age categories (1, 2, 3, 4….*r*). Each term inside the brackets multiplied by *r* gives the number of households with 0, 1, 2, 3, 4…*n* people plus one further combination for the 'void' case (i.e. an empty property).

A simplified version of the formula, in which the number of possible arrangements of *N* households with *r* age groups and *n* occupants, is given by:

$$N = \frac{(n+r-1)!}{(r-1)!n!}$$

From this formula we can construct the following table, which shows the number of possible arrangements of up to 6 occupants and 6 age groups. For example, there are a total of 1+3+6+10+15=35 combinations of household types with 3 age categories and from 0 to 4 people, if the void case is included (i.e. a household with no people).

This is highlighted in row three of the table below which adds to 35. Note that this is the same as the number of combinations with one to 5 age groups and 2 per household, for 4 age groups with 4 per household, and for 5 age groups with 3 per household.

	Number of people per household, *n*						
number of age categories *(r)*	**0**	**1**	**2**	**3**	**4**	**5**	**6**
1	1	1	1	1	1	1	1
2	1	2	3	4	5	6	7
3	1	3	6	10	15	21	28
4	1	4	10	20	**35**	56	84
5	1	5	15	**35**	70	126	210
6	1	6	21	56	126	252	462

Table A1: Mapping household demographic combinations on to the eight standard types, A to H, for three age groups and up to four occupants (breakdowns by household types for households with 4+ occupants not shown due to lack of space.)

Household sub-type	Age group 0-19 (a)	Age group 20-64 (b)	Age group 65+ (c)	Household occupancy (a+b+c)	Standard household type
1	0	0	0	0	void
2	0	0	1	1	D
3	0	1	0	1	G
4	1	0	0	1	H
5	0	1	1	2	C
6	0	0	2	2	C
7	0	2	0	2	F
8	1	1	0	2	B
9	1	0	1	2	H
10	2	0	0	2	H
11	0	2	1	3	C
12	0	1	2	3	C
13	0	0	3	3	C
14	0	3	0	3	F
15	1	2	0	3	A
16	1	1	1	3	E
17	1	0	2	3	H
18	2	1	0	3	B
19	2	0	1	3	H
20	3	0	0	3	H
21	0	3	1	4	C
22	0	2	2	4	C
23	0	1	3	4	C
24	0	0	4	4	C
25	0	4	0	4	F
26	1	3	0	4	A
27	1	2	1	4	E
28	1	1	2	4	E
29	1	0	3	4	H
30	2	2	0	4	A
31	2	1	1	4	E
32	2	0	2	4	H
33	3	1	0	4	B
34	3	0	1	4	H
35	4	0	0	4	H

Appendix B: The 'No Negative Equity Guarantee'

All Equity Release plans approved by the Equity Release Council include a No Negative Equity Guarantee (NNEG). This prevents a person from owing more than their home is worth when they buy a life-time mortgage. This appendix provides a visual interpretation of how it works.

With a life-time mortgage, it is unnecessary to make any repayments until the property is sold. This is usually after death or on moving into long-term residential care. At this point, the equity release provider reclaims the sum borrowed plus all of the interest due.

NNEG may be triggered if too much has been borrowed (i.e. there is a high loan to value ratio), if house prices fail to grow at the assumed rate, or if a person lives longer than expected. The following examples are based on a fixed-for-life borrowing rate of 5.4%, the current industry average.

Rows in the table show the loan-to-value ratio, and the columns show the assumed house price inflation per annum. In the green shaded area there is a greater than 50% chance of the amount owed being repaid in full; in the red-shaded area there is a 50% or greater chance that the NNEG will be triggered.

The size of each shaded area is determined by median cohort life expectancy at age 70 in 2018 (source ONS) – the typical age of equity release users. Because women live longer (median age of death is 90) it means the green area is larger for men (median age 88). It implies that a typical loan might not be repaid for, say, 20 years if it is taken as a lump sum at age 70.

The risk for lenders depends heavily on future house prices. For example, if house prices fell by 3.5% per annum a property would be worth only half its original value; but if they increased by 3.5% it would be worth twice as much (all figures are approximate). Chapter 3 showed that prices are at historically high levels.

Responsible lending involves taking a view on the value of each of these parameters over a long period. Crudely speaking, if the maximum loan-to-value ratio is 0.3 then NNEG would be triggered in 17% of scenarios in the case of women, but if the maximum loan-to-value ratio was 0.75 then it would be triggered in about 50% of cases.

Looked at in a different way, a loan-to-value ratio of 0.4 would require, for women, 2% annual house price falls to trigger NNEG in 50% of scenarios, whereas a ratio of 0.8 requires annual house price rises of at least 1% to avoid an NNEG trigger in 50% of scenarios. The current industry loan to value average is 0.315 according the Equity Release Council's spring 2018 report, which appears to be prudent.

Figure B1: Chance of triggering the NNEG

Women (a)

House price inflation per annum

Loan to value ratio	-4%	-3%	-2%	-1%	0	+1%	2%	+3%	4%
0.05									
0.10									
0.15									
0.20									
0.25									
0.30									
0.35									
0.40									
0.45									
0.50									
0.55									
0.60									
0.65									
0.70									
0.75									
0.80									
0.85									
0.90									
0.95									
1.00									

Men (b)

House price inflation per annum

Loan to value ratio	-4%	-3%	-2%	-1%	0	+1%	2%	+3%	4%
0.05									
0.10									
0.15									
0.20									
0.25									
0.30									
0.35									
0.40									
0.45									
0.50									
0.55									
0.60									
0.65									
0.70									
0.75									
0.80									
0.85									
0.90									
0.95									
1.00									

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He is also the author of the 2018 CSFI report, 'The Dependency Trap: are we fit enough to face the future?'

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UK Finance
Wipro
World Federation of Exchanges

Absolute Strategy
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